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J. RAMSBOTTOM, B. BARNES and H. WORMALD

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VOLUME XXIV SEPTEMBER 1940 PART II

PRESIDENTIAL ADDRESS ON SPECIMENS, SPECIES AND NAMES

BY E. W. MASON, M.A., M.Sc., F.L.S.

PREFACING the first of that succession of addresses which has adorned our amateur side, Plowright said straight out, and with engaging candour, that long presidential addresses were rarely interesting; that, dealing as a rule with generalizations, they lacked the piquancy of concrete facts; and that, being usually post-prandial, they tended to be soporific. To be sure, he spoke of forty years ago, and a modern audience may be of tougher fibre; but before we find that out, I hasten to thank you for your compliment in electing me this year's president, and then, perhaps as a ship that passes in the night, onward to my theme.

The intention is mainly this: as for nearly twenty years we have together explored the English woods, to-day I would explore with you that ground which is common to us all—the just diagnosis of the specimens we collect; but especially as that presents itself to the modest hewer of wood. Now by the term diagnosis I mean our assignment of a specimen to its species, and usually we have plenty of species from which to choose. A census of British Pyrenomycetes, for instance, shows that 1423 species are already recorded; so I will approach this subject by inviting you to consider the doubleness inherent in this innocent-looking little statement, that some 1400 species have been recorded. Let us turn to our classics.

Here then are two quotations: "When on board H.M.S. *Beagle* as naturalist, I was much struck with certain facts in the distribution of the organic beings inhabiting South America. These facts seemed to me to throw some light on the origin of species...." And again this: "When a species is divided into two or more species, the specific epithet must be retained for one of them...." The first quotation you will recall is from Mr Darwin, introducing his hypothesis of the origin of species by means of natural selection; the second is from Article 52 of the International Rules of Botanical Nomenclature.

Now, one might imagine that those who frame these rules sit round a room, and watch one of Mr Darwin's species being divided into two or more species; but that is not so. They do their work entirely undistracted by the presence of mundane plants, and there is no sort of mystery about the origin of the species that they discuss. For there are indeed two sorts of species. The first, the real or objective species, the sort that has our heart and that Mr Darwin had in mind, consists

of real animals or real plants. The second sort, on the other hand, the nomenclatural species, is almost entirely an ink-and-paper affair, and each of them consists of a Latin specific epithet, at least one human author, a date and a description; and if justice had been done, each, ere this, would also have been anchored to reality, by the designation of its type specimen. Now it is sometimes claimed, in my view unhappily, that a species was created by a botanist; the most that should be said, and that in only a few instances, is this: "An apt mind has been stirred and has poured itself out nobly in adoration of what it believed that it saw." But we must return to our Pyrenomycetes.

Let us suppose now that we could make one big pile of all the material in the country; that we could sort the plants out correctly into their real species; that we then found that we had made exactly 1400 heaps of plants; and, lastly, that all the plants in each heap answered precisely to the description of one of the species in the census. Why, then we could say that we had specimens of 1400 real species in our country, and that we had the same number of good—good enough for us—nomenclatural species on our books. Then for the future, and with a good conscience, we could dedicate ourselves entirely to the higher mycology. But that time is not yet.

Assuming then that there is something still to do, and that it is not going to be done for us by others, what of the methods! They are still, I take it, the same three that were adumbrated by the younger Hooker in 1857. He premised that three men were called upon to describe the camel. The first embarked forthwith for Egypt, the second walked round to the Zoological Gardens, and the third shut himself up in his study and thought it out. The first is the way of the collector—acquaintance with a full range of specimens as they occur, and "camels" I am informed occur in Egypt only as "dromedaries". The second is the way of the experimenter—acquaintance with a few specimens under rather controlled conditions. And the third is the only way open to us when we are not acquainted with any specimens at all.

I must pause here lest anyone in this room should be incautiously assuming that he has collected *Armillaria mellea* or *Botrytis cinerea*. The test is indeed a simple one; for if he has, then there is no more left in the world for anyone else to collect. When we say, "This is *Armillaria mellea*", we are not making a statement of fact; we are employing a misleading ellipsis. That name is not the proper name of the specimen in our hand; it is the common name of all the specimens of that species—past, present and to be. We mean, "This is a specimen of *Armillaria mellea*", or, heeding the admonition that our manuscripts must be typed, carefully revised and kept as short as possible, "This is an *Armillaria mellea*, this some *Botrytis cinerea*".

While then it is not possible to collect a species, I would still em-

ploy this unaccustomed hour in preaching this doctrine—that the nearest any of us can get to a real species is in collecting and studying a full range of its specimens; that as it is axiomatic for a writer that the adjective is the enemy of the noun, so should it be axiomatic for us that the taxonomist is the enemy of the real species; and that, though book-botany is an excellent walking stick for our foray members, it should never be allowed to usurp the place of specimen-botany by coming between a naturalist and his specimens.

To-day, however, we are not thinking of the common or camel species: if we were, our specimens would be individuals, and our species would be what the books and the American Phytopathological Society say they should be—groups of individuals; but the fungus-hunters' specimens are rarely individuals at all, but something else.

Consider the historical specimen of *Clitocybe gilva* that was collected at Epping in 1909; and how Mr Gould thought that, if he could collect a descendant of that specimen in 1936, it would probably be given another name. If, however, twenty-five years later a second specimen were collected in about the same nook, it would be altogether likely to be another specimen collected from the same individual plant, and not a descendant of the first specimen at all. So here is a distinction that must be present in our minds when we are dealing with many a fungus species. Just as the "individuals" that we collect in the field are individual specimens and not individual fungi, so the descriptions, given by our favourite authors of the great majority of species, are descriptions of individual organs, and again not of individual fungi. In practice we never see the individuals, and so for us they exist merely as abstract generalizations.

But, you will say, modern laboratory methods have altered all that, and when we grow fungi on transparent media the whole individual is laid bare before us. Let us recall then Miss Sampson's account of smuts in culture and how they were not picturesque, but were liable to form a grey-brown gelatinous-looking mass, sometimes with a corrugated surface resembling miniature mountains and river valleys; but how nevertheless one could learn to recognize the face of a colony with the accuracy of a farmer who knows his own sheep. Now it is all very well to compare a smut colony with a sheep, but no farmer has a sheep that he can turn into a thousand more sheep which he cannot tell apart—or perhaps into a thousand of the same sheep, no one is quite sure which—by shaving pieces off the first and planting them.

It is not clear—it is not indeed—where one fungus ends and the next begins; and that, I suppose, is why we are wont to refer to all the specimens of a fungus species as "the fungus itself", although one fungus does not make a species.

But the elusiveness of the individual fungus confounds us not only

when we are talking about fungi at large; it lays a quite special trap for us when we rely on cultures to teach us the limits of a species. We are all too prone to think that we can start with one spore or one hyphal tip, and that, by growing a room full of subcultures at various temperatures and on all sorts of media, we can establish the full variation of their species. That, however, would not be so, even if we examined all the specimens that we had produced. For if we start with one ascospore and make a thousand subcultures, the range of specimens we shall observe will not be as that of a thousand ordinary sheep; but rather as that proper to a thousandfold identical twins. If, on the other hand, we start with one conidium or one hyphal tip, our mental picture is a little more hazy; because the specimen, which originated our conidium or hyphal tip, may or may not itself have originated from the fusion of several ascospores, themselves from different sources. Even then the variation that we shall observe will be no more than that proper to a single miscellaneous sheep that has had a thousand different opportunities of growing up. If our aim then is to establish the full range of a species, we must reconcile ourselves to the fact that we cannot accomplish it merely by multiplying a single specimen *ad infinitum*.

As in the delimitation of a species, so for the diagnosis of specimens, the value of cultures has been overrated; and mycologists are still with us who think that it is more scientific to name a fungus in a test-tube than a fungus as it occurs. But the surest basis of the art of diagnosis is unchanging and is this: the matching of good specimens of the species to be named against good specimens that have already been correctly named. If a collector wishes anything that he collects to be matched with named material of a species, he should include ample good sporing material in that state in which specimens of that species were first collected and described. Lacking that state, it cannot be matched directly but only with the eye of faith. Our culture methods are indeed favourable enough for the study of those species, whose specimens immediately increase and multiply, whenever they are given a diet of boiled vegetables; but they are, on the contrary, unfavourable for the study of those species which are more racy of our soil; and whose specimens either will not increase, or exasperatingly will not multiply, without a diet either of living plant parts or of weathering dead ones.

But there is another point here: when the innocent old-world phanerogamist planted a primrose seed, then—for a primrose by a river's brim a yellow primrose was to him—he never expected that there should come forth onions. But when we plant an ascospore of a Pyrenomycete, what comes forth may not be recognizable even so far as that it ever was a Pyrenomycete. Further, it is rare to find that all the species of a genus behave with precise regularity in the produc-

tion of secondary spores; nor indeed can that be guaranteed even for all the specimens of a single species.

Moulds—*Mucor*, *Aspergillus*, *Penicillium* and the like—are quite at home in a jam jar; hence if we wish to increase our acquaintance with them by multiplying their characteristic fructifications, nothing is more reasonable than to grow them in glass dishes for that purpose. But consider now the unfortunate smuts grown under similar conditions. As the saying is, these plants are not themselves. They have not become domesticated plants, for there is tremendous joy in a laboratory whenever one is seen to breed. Still less are they wild plants, for no collector has yet found anything like them growing wild. Their study is not the study of plants as they occur, but the study of plants as they do not occur. The game is up if they are not named before they are planted in a tube; for while the observer wonders if he has a new-to-science species, it is only certain that he is looking at a new-to-nature specimen. Each can be named only after it has been linked with a fungus that has been discerned, collected, described, classified and preserved in the good old way. Hence the rule is this: that outdoor fungi should be matched so far as may be with other outdoor fungi, and that the indoor specimens that are produced from them by culture work should be reserved for other purposes.

And now it is more than time to approach the subject of diagnosing the specimens that we collect; and here I fear that some of us will part company. For, year after year, "What is truth?" said the jesting toadstools—said to me of course—and would not stay for an answer; and as each year's specimens were shot into the dustbin, I could not but recall the melancholy adage that dead men tell no tales. So, in order to illustrate this address, which after all is designed to be about specimens and species, my few examples will be taken from the wood and bark Pyrenomycetes, a group of fungi that, more than all others, build for the future, and above all others so well deserve their beauty.

But first it will perhaps be well to remind you that the name Pyrenomycete includes all those fungi which produce perithecia; that perithecia are hard or soft receptacles of such a size that they can be seen by the naked eye; that the asci, which are membranous sacks containing the ascospores, are formed within the perithecia; and that, while the presence of asci and ascospores can easily be demonstrated in the field, the individuals of each are too small to be seen without the aid of a microscope.

Now while to you or to me a perithecium may appear a matter of fact enough piece of apparatus that is there to disperse the ascospores, or at any rate to present them for dispersal, there is said to be more in each perithecium than meets the eye; as that its wall belongs to a first generation, the ascus walls within it to a second, and the

ascospores themselves to a third, which is perhaps, confusingly enough, the first again. But however many generations there may be, they may go now, because for this afternoon they all constitute a single perithecium, and a single specimen has many perithecia.

Just as the species of Agarics are recognized by and described from their sporophores or their toadstool parts, so, for our time and generation, the species of Pyrenomycetes are recognized by and described from their perithecia. Now the perithecia develop a succession of asci against a succession of rainy days; and so if a specimen with ripe perithecia is removed to the shelter of a house, it awaits uncomplainingly the next rainy day for a very long time; and many have already been waiting for a hundred years and are still in almost as good condition as on the day they were collected. Perithecia then are in themselves superior subjects for the specimen botanist; and, as will immediately appear, those of the wood and bark species present also another great attraction. With a few bizarre exceptions, such as those of *Xylaria*, they are embedded in, or erumpent from, or closely moulded on to wood and bark, and accordingly, as some of you have observed, portions of their intimate habitat are readily collected with them. And once again, the perithecia of our *in situ* specimens, in almost derisive contrast with the wildly woolly ones of *in vitreis* specimens, retain the clear cut outline original to their design.

Next Pyrenomycetes are betwixt-and-between fungi, that is to say, the species are to be recognized by eye characters, and their identity confirmed by microscopic characters. Now, just as in recent years examination of a fungus in a test tube has been considered the hall mark of "scientific methodology", so examination with a microscope has been held to be more fundamental than examination with the naked eye. The danger of this, however, is that we may become micro-minded and see the significance of our observations as much magnified as the disarranged fragment of the specimen that we are examining. But the micro-fungi do not inhabit a micro-world but the same world as that in which we live, with the same wind, the same rain and the same insects, as well as the same trees and shrubs. The effective range, for instance, of the annual cloud of rust spores in America is much the same as that of a balloon barrage, gloriously freed; and that is because *Puccinia graminis* can manufacture a macroscopic powder of spores, can keep its powder dry, and the wind passeth over them and they are gone. Hence when we start looking at specimens of Pyrenomycetes in their surroundings, the presence of a septum or two in their ascospores appears unimportant, unless, from our further experience, any such attains some unexpected significance. Nevertheless, each of our modern genera of Pyrenomycetes is limited by definition to one of the spore groups, and the name of each spore group refers to the number and arrangement of septa in the colourless

or coloured ascospores. What a pity! Not only because a septum with a hole through its middle is dull in itself, but also because it may be the cause of dullness in us, so that, as has so often happened in the past, specimens of the same species may continue to be classified in diverse genera.

It is clear then that the collector is in need of help in diagnosing his specimens; and help is at hand just because perithecia never do occur *in vacuo* but always in sundry places. So for this afternoon we are turning our backs on the twenty-five or some other number of families in which too numerous descriptions of species are to be found, and are looking rather towards the sundry places which we can see very well with our ordinary eyes; and this is what we do see.

First the enormous majority of perithecia that are formed in this world without our aid, are formed in some close association with portions of a phanerogam; and seen closer, they group themselves as the inhabitants respectively of (1) wood and bark, (2) herbaceous stems, (3) leaves, and (4) the detritus, after our ruminant fauna has finished with it, of the first three habitats. In addition there are small subsidiary groups, such as those whose members inhabit other fungi, or insects. In practice it is usually found that one of these groups is more than sufficient to employ the weekends of any suburban botanist; and so our examples to-day must all be taken from one group, the first—the wood and bark Pyrenomycetes.

There are, then, the perithecia, there are the asci and there are the sundry places; the perithecia are to be distinguished by eye from all others that inhabit the same places and their diagnosis is to be confirmed with the help of the microscope. Now places display themselves in an infinite variety, and so we are soon back again in our familiar and still pleasingly unpolysyllabic world, a world of common places and of exclusive places, but especially of timber in the round; of living, and of dead, oak and ash and thorn; as well as of sound wood, and scorched wood, and decaying wood and rotten wood; in a world then not only of the unforgiving minute, but also with the English landscape in it. And here is a minute fragment of it.

Hypoxylon argillaceum is notable among species of *Hypoxylon*, not only because its specimens may profitably be searched for with field glasses, but also because they are strictly limited to one tree, the ash. The presence of perithecial stromata of *H. serpens* should be confirmed with the toe of a boot; for while they may occur on any tree or shrub, they are always situated immediately above wood that has lost its identity, that is, which has become completely rotten. A useful grouping is that of species whose perithecia first burst through more or less unchanged bark soon after the death of a branch; I am wont to differentiate them as fungi of first incidence. It includes such vagrants as *Nectria cinnabarina*, *Hypoxylon rubiginosum* and *Diatrype stigma*.

Each of these three is also an indicator of a secondary species: the first of *Nitschia cupularis*, the second of *Tympanopsis euomphala* and the third both of *Calyculosphaeria tristis* and also of the species with which that was so long confused, *Chaetosphaeria phaeostroma*. Specimens of such secondary species are found only on branches previously infected by one or other of their indicator species.

Lasiosphaeria spermoides produces conspicuous sheets of perithecia over the cut surface of stumps, but only of such as have been first infected by the rhizomorphs of *Armillaria mellea*.

A species that is characteristic enough of a host plant may occur upon it only as a secondary to the fungi of first incidence of that host. Thus on birch branches the first comers are the perithecial stromata either of the commoner but less conspicuous *Pseudovalsa lanciformis*; or of the less frequent but more conspicuous *Melanconis stilbostoma*, both of which occur only on birch; or of *Diatrypella favacea* which occurs on all trees except oak. Later, perithecia of *Calosphaeria Wahlenbergii*, a characteristic secondary on birch, may be found nestling between the bark and the taut periderm of the same branches, especially when sought for with the tips of the fingers.

The perithecia of the species of genuine *Ceratostomella* are stated, in the generic description, to be superficial on wood; any, however, that are completely superficial are worthless to the collector as they are always empty. The valuable perithecia are embedded separately in the wood, and the slender projecting beak of each can just be detected when the eye is aided by a glancing sunbeam. They may be found, however, easily enough when sought in the right place—wood so rotten that a finger can be poked into it, and in which conspicuous channels have already been gouged out by the larvae of long-horn beetles.

Valsa ceratophora follows fire, and its stromata form abundantly up the scorched stems of all the young standing trees and shrubs involved. Usually, however, only those stromata which are formed in the collar regions answer to the description of the species; so *Valsa ceratophora* has half a hundred different names described from single collections of stromata, on one occasion found flush with the periderm, and on another exserted into a besom of beaks; in thick bark or in thin bark; and severally on all the different trees and shrubs of the Northern Hemisphere. But they have all been called *Valsa*.

Specimens of *Diatrype stigma*, however, are not so fortunate. When they occur, for instance, on young branches of beech, they have to burst out through the taut young periderm, and develop a white ectostroma for that purpose. The generic name *Diatrype* refers to this splitting apart of the periderm. When, however, specimens are forming, sometimes several feet long, in the thick bark of an old beech log, no ectostroma is formed and the specimen follows the contours of the

bark, or, after the bark has gone, of the wood. Such specimens have then received several specific names in the genus *Eutypa*; and in one favourite classification have changed not only their generic, but also their family, name. And that is only the specimens on beech; there are others on our other trees and shrubs.

Of making names, then, there has been no end, but now is our chance to find out what is in any of them—if indeed that is in us. The fungi of first incidence should be our first concern, for in the past the presence of one of them has provided the occasion for many a discourse on parasitism and saprophytism; and hence it has come about that the presence of one of them now may provide occasion not for the use of a single name, but rather for a conversazione.

This process of recovering our real species from the phantasmagoria of book-botany has little more than begun, and as yet affects hardly more than the most conspicuous species. Remember the fifty-three specimens of *Hypoxylon rubiginosum* in the Kew Herbarium, and where precisely Dr Miller found them; twenty indeed in the *rubiginosum* folder, three in that of *cohaerens*, four in that of *atropurpureum*, three in oddments and twenty-one in that of *multiforme*. Some of these specimens had been in residence as museum pieces since 1836. We know all about *rubiginosum* now, and how, in these parts, it may occur on all trees and shrubs, but only in the immediate vicinity of mature ash. But if that had been known in 1836, our *multiforme* folders would now be emptier than they are, for as soon as the precise habitat of a species is known there is little difficulty in distinguishing its specimens from those of any possible neighbour.

When I first looked at perithecia and then looked at the welter of possible names in the books, it seemed to me that applying a name to the first must be as difficult as naming the grains of sand on a seashore. But I know now that I was endeavouring to proceed along the wrong road, the high road that is signposted with palimpsests of family and generic names. So to-day I am recommending the low road, the road of seeing places, and of hail fellow well met, and now and again of "Dr Livingstone I presume"; the road along which we may be continually collecting fresh inspiration as we collect fresh specimens, until perhaps upon some great occasion: "All is in the wine press; all is in drunken ecstasy and the grapes begin to stammer." But we must pass on to the activities of this year.

You may have read in the *Transactions* how your Plant Pathology Committee rounded off last year with two resolutions which have since been implemented; how they appointed a subcommittee, with Mr Moore as convener, to keep under annual review the binomials in their "List of Common Names of British Plant Diseases"; and how, naturally then, the urgent alterations were submitted, corrected and approved, and are already published with reasons given; how also,

at the instance of that Committee, well served by Dr Ainsworth's able pen, "forty-two Offices, Societies and Institutes of Great Britain [ourselves included] have agreed to respect these fungus binomials as closely as possible in their official publications"; and also how the same Committee proposed that the name *Urocystis* should be conserved against the name *Tuburcinia* chiefly on this ground—"that the name *Urocystis* has been well known to, and in frequent use by plant pathologists since there has been a science of plant pathology, and accordingly should not be discarded without cogent reason". And how your Council inaugurated a Nomenclature Committee, which faithfully got to work on some of the generic names that have been proposed for conservation; tabulated all the relevant material it could find, and ventured to express its own, but agreed, opinion on the least injurious actions possible.

Our *Transactions* then have been appearing in full measure and with almost precise regularity; and the two spring London meetings held were well attended, and included a greatly enjoyed hour of cinema display. The papers which were read reflected our wide range of interests, and were probed and praised with all our usual gusto. Our outdoor mycology, on the contrary, can be briefly chronicled. Ominously enough, only thirteen of us met at Arundel, and the fungi proved to be hardly either here or there. The pathologists met at their full average strength for their day at Jealott's Hill, but then the curtain falls.

Such is the foreground of the picture, that is framed in our eventide of peace; and I will now attempt to shadow forth its background. As is so often recalled, we began as a comradeship, mainly of amateur naturalists, than whom, as we know well, none are more generous with all their information. Thereafter our membership has become more and more professional, and what may be termed the newer botanologies have successively pretended to the saddle; hence our species have tended to become less fashionable, and the flame of our younger naturalists to become extinguished. But a later tendency can also be discerned: to moot, as all in all, pure science for its own sake, and in love with its own reflexions, so that already some half of us owe our main allegiance to applied mycology. Chief and most numerous of these are the plant pathologists, whose main business is to hold unceasing strife with the few fungi that can play havoc with our major crops; and who need no multitude of names, many used but once in a lifetime, but the few names that are always on their lips and are repeated month by month in at least two periodicals.

Now names do not belong to fungi, which have neither speech nor language, but to us. Their use is not that all fungi may be understood by all mycologists, but that we may be understood by one another. Hence it would appear eminently proper that fungus names of great

public importance should be confirmed, and no longer like "children being carried away with every blast of vain doctrine". So I am glad that our ambidextrous Society has attempted something of this sort, and that what was done was done with such unanimity.

And now for a brief glance through the modern nomenclatural kaleidoscope. Generic names are to be associated for all time with three things: an author's name, a date and a type species. The uses allotted to the author's name, though necessary, are humble; for there can be no date without a publication, nor a type species unless the author put it in his genus. The date too subserves two ends: both to fix the precedence of the genus in the hierarchy of names, and to restrict the choice of the type species to one of the original species of the genus. The mischief arises when a discarded type species, specimens of which are known to some one in a thousand mycologists, is thus again foisted upon us, as when, for instance, the genus *Sphaeropsis*, the foremother of the Sphaeropsidales, was suddenly proclaimed an Ascomycete.

A mass migration of nomenclatural species is always threatened whenever a generic name, substantial of species and ripe of years, is disestablished. And for many years now, any number of old generic names that are almost household among us have been held in a state of suspended disestablishment. Under the modernized rules, these key names must go unless they be conserved. They have mostly been proposed for conservation, but while Congress keeps each decision in its own hands, it makes no haste. This year your Nomenclature Committee, with Miss Wakefield as Secretary, did at least get down to some cases, and published its opinion on them for your information; but unless and until the Special Committee for Fungi, appointed by Congress, itself gets down to cases, there can be no mycological precedents of any international status.

And now we are approaching the close of our first wartime meeting, as of this exciting year; and I will approach my close on a note almost of apology to our hosts, for what we have brought with us. As you have perceived, this address is hardly in the urbane atmosphere of the Linnean Society of London: indeed, it was planned for a very different purlieu, the rough and tumble of our autumn foray in the pastoral setting of Chipping Campden. There, so it seemed, it might best contend with the natural effect of a long day's collecting, if designed as a running commentary for a jog-trot hour, without benefit of footnotes, nor continued in a bibliography. But our hosts who, a shining example, are at their post, will no doubt indulgently accommodate it, as one of the minor horrors of war; remembering that, for the first time, we have been compelled to honour in the breach our peculiarly own harvest home in England's green and pleasant land.

LISTS OF BRITISH FUNGI

In November 1935 the Plant Pathology Committee considered a proposal from Dr S. P. Wiltshire that the Committee should compile a List of British Fungi, and a resolution was passed expressing the opinion that the compilation of such a list would be very desirable both from the phytopathological and mycological aspects. A Sub-Committee consisting of Dr S. P. Wiltshire (Chairman), Mr W. Buddin (Secretary), Mr K. St G. Cartwright, Mr W. C. Moore, Mr J. Ramsbottom, Miss E. M. Wakefield and Dr H. Wormald, appointed to consider ways and means, reported to the Committee in March 1936 that although a complete list of British Fungi was at present impracticable, the same object might ultimately be achieved by compiling lists of individual groups of fungi, on a common pattern. It was suggested that the fungi listed should be those recorded for the British Isles, whether given in British or foreign works, that all records providing new information should be included, that annotations should be restricted to points of taxonomic or biological interest, and, to secure uniformity of citation and to economize printing costs, that periodicals, monographs, floras and other works recording large numbers of fungi should be quoted by numbers instead of by names.

Offers to compile two such lists had then been received, one from Miss Wakefield for Hyphomycetes, and the other from Mr J. Ramsbottom for Discomycetes.

The Committee agreed that the work should proceed on these lines, and, subsequently, offers to compile lists of Phycomycetes (Dr C. G. C. Chesters), Pyrenomycetes (Dr G. R. Bisby and Mr E. W. Mason), Ustilaginales (Miss K. Sampson) and Uredinales (Dr Alex. Smith) were received and accepted. The following list of Pyrenomycetes is the first of the lists to be completed; the others will be published as they are ready.

The Committee takes this opportunity of thanking Dr C. E. Foister, Dr Lilian E. Hawker and Miss E. Oyler, who, in addition to past and present members of the Committee, assisted those in charge of the lists with the task of searching the literature for records.

W. Brown,
Chairman, Plant Pathology Committee.

(*Accepted for publication* 21 *May* 1940)

LIST OF PYRENOMYCETES RECORDED FOR BRITAIN

By G. R. BISBY and E. W. MASON

Introduction

1. *Historical.* Pyrenomycetes were reported in Britain in the seventeenth century by Ray and others. Near the beginning of the nineteenth century Dickson, Bolton and Sowerby supplemented their descriptions with illustrations of the external characters of their specimens. Greville (1823–8) published 360 excellent coloured plates (240 illustrating fungi), with descriptions. Greville was one of the first British mycologists to figure ascospores and to preserve specimens systematically.

On the Continent, Persoon (1801) compiled some 200 Pyrenomycetes. Fries (1823) brought together the descriptions of about 600 species, 550 under the genus *Sphaeria*, classified on the appearance of the perithecia *in situ*. He divided *Sphaeria* into Compositae, with four Sections and sixteen Tribes named and briefly characterized, and Simplices with three Sections and eleven Tribes. Although he gave little attention to asci or spores, few pycnidial fungi were included. Between 1819 and 1834 Fries issued 450 numbers of his Scleromycetes Sueciae (the majority Pyrenomycetes), which supplemented the descriptions in the *Systema*.

Sphaeria, as used by Fries, included the modern Sphaeriales and Hypocreales. Saccardo classified these orders into genera on characters of ascospores. Winter based Families on the "Sections" and "Tribes" of Fries, but his classification is no more "natural" than Saccardo's.

Berkeley's account of British fungi in Smith's *English Flora* (1836) marks the beginning of "modern" mycology in Britain. He was later in touch with Fries, Montagne, and others, and was ably assisted by Broome. Currey studied many of the Pyrenomycetes included in W. J. Hooker's herbarium, and described and figured their asci and spores. Cooke in 1871 published his *Handbook* with descriptions and a careful compilation of records. *Sphaeria* was still a very prominent genus, but during the years 1850–80 the emphasis on ascospore characters as criteria for genera was resulting in its gradual elimination. One important result of making the microscope the main guide to generic characters was the loss of emphasis on macroscopic features. Cooke (1875) protested, and (with Plowright,

1879) proposed to save the "natural system" of Fries by making the Friesian "Tribes" the basis of new genera, e.g. *Byssosphaeria* Cooke for "Sphaeria, Byssisedae Fr.", *Psilosphaeria* for "Sphaeria, Denudatae Fr.", etc. Cooke did not hesitate to re-characterize some of the then recent genera to fit this scheme. Transfers from Cooke's *Handbook* (1871) were indicated without being made: for example, "Genus 9. *Conisphaeria* Cke." was cited with a short diagnosis, followed by "Sphaeria, Pertusae Fries in part" then "Species, Handbk., nos. 2604 to 2611" and "*Conisphaeria paedida* B. & Br." (an addition to the *Handbook*). The last name may be cited now as *C. paedida* (Berk. & Br.) Cooke, but nos. 2604 to 2611 were not validly transferred. In the same year, however, Stevenson (1879) cited by name under *Conisphaeria* nos. 2604–6–7–8–10, and also no. 2621 of Cooke's *Handbook*. Thus no. 2604 is cited "*C. pertusa* Pers. *Sphaeria* C. Hbk. no. 2604", and it therefore becomes *Conisphaeria pertusa* (Pers. ex Fr.) Stevenson. Sometimes the first actual citation of Cooke's suggested names appeared in the papers of Bucknall (1878–91) or others.

In 1882 and 1883 volumes I and II of Saccardo's *Sylloge* appeared: they included the Pyrenomycetes but ignored the generic nomenclature of Cooke and Plowright. Cooke then undertook a more gigantic addition to the synonymy and nomenclatural confusion of Pyrenomycetes: in his "Synopsis Pyrenomycetum" (1884–90) he went through the *Sylloge* and set out still another "theoretical" arrangement for many of the 5928 names he included. Massee followed faithfully a few pages after each instalment and listed the British species under Cooke's names. This list of Massee's is the last complete list of British Pyrenomycetes. We have attempted to record those synonyms due to Cooke which thus appear in a British list. Meanwhile Plowright (1884) accepted Saccardo's classification.

Cooke remained active into the twentieth century, and many records of British Pyrenomycetes were also contributed by his contemporaries or successors: Plowright, Phillips, Grove, Massee, Bucknall, A. Lorrain Smith, Ellis, Hawley, Rhodes, F. A. Mason and others.

2. *The citation of authors.* Since 1910 the International Rules have accepted the *Systema* of Fries as the starting-point for the nomenclature of the Pyrenomycetes. Thus *Sphaeria gelatinosa* Tode (1790) was accepted by Fries in the *Systema*, and may now be cited as *S. gelatinosa* Fr., or *S. gelatinosa* [Tode] Fr., or *S. gelatinosa* Tode ex Fr. Phanerogamic botanists often omit pre-Linnaean authors, but mycologists seldom omit reference to Persoon, Tode, or several other pre-Friesian authors.

Fries (1849) transferred *S. gelatinosa* to *Hypocrea*, in which genus it can be cited conveniently and correctly as "*H. gelatinosa* (Fr.) Fr." or "*H. gelatinosa* (Tode ex Fr.) Fr." The latter model is followed in the

List of Species, but the former, for the sake of brevity, in the Index to Species.

Occasionally Fries did not accept an earlier generic or specific name that has since been adopted. Thus *Sphaeria pusilla* Wahlenb. was placed in the *Systema* as a synonym of *S. pulchella*. Karsten in 1873 decided that it was distinct and transferred it as "*Calosphaeria pusilla* (Wahlenb.) Karst." But this name has validity only from 1873; the species had meantime been named *Sphaeria Wahlenbergii* Desm., and this valid name was transferred to *Calosphaeria* by Nitschke. If the latter specific name had not been found, the name would have been entered herein as *C. pusilla* ([Wahlenb.]) Karst.

3. *Explanation of citations.* Saccardo's classification is usually followed. The type species of genera based on British collections or proposed by British workers are marked "gen.nov." New species and new combinations are indicated by "in" (e.g. "*Sphaeria* Berk. in **19**"); "apud" is used to avoid repetition of "in"; "as" is used (e.g. "Berk. **20** as *Sphaeria*") for other records under names not accepted. The word "ex" is used not only after pre-Friesian authorities, but also when a worker attributes the description of a species to another, e.g. "Bloxam ex Berk." Each literature citation refers to the last scientific name mentioned. Only the page of the description or record of a species is given, or the first page of several. An asterisk (*) indicates figures drawn from British specimens, not necessarily appearing on the page indicated by the asterisk. A reference marked "t." is to a figure directly. Author citations are corrected to modern usage without comment. Since a record as "*Sphaeria* (*Valsa*)" does not validly transfer the species to *Valsa*, the latter name is omitted. The authors of more important papers or lists are indicated.

The host or substratum is given very briefly; a citation "on *Fagus*, etc." means that *Fagus* is the common or type host, but that there are records on other hosts. Localities are not given except when only one or two are known. The references at the end of this section include certain important works on Pyrenomycetes; the dates of some are often cited incorrectly by authors.

4. *Remarks.* Many doubtful and superfluous names have been applied to British Pyrenomycetes: for example there are twenty-two binomials in *Chaetomium* but, as indicated, they probably represent no more than ten species. There are 121 entries left in *Diaporthe* which, according to Wehmeyer, represent twenty-seven definite species or varieties, and ten doubtful ones. We have hesitated, however, to reduce most names in these genera in the absence of further study of British specimens; both synonymy and misidentifications are involved. Only in the Xylariaceae, Hypocreaceae, and a few other groups can the British records be arranged to give a close approximation to the actual species present.

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—— (1875). *Grevillea*, iv, 30–2.

—— (1884–90). "Synopsis Pyrenomycetum" in *Grevillea*, xii–xix.

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The following table gives the groups under which the records of British Pyrenomycetes are listed, the numbers of species (plus varieties) reported, and the page references. Entries in square brackets in the List of Species indicate synonyms, errors, or conidia only, and are not counted here.

Group		No. of entries	Page
Laboulbeniales		40	131
Gymnoascales		21	132
Perisporiales			
Eurotiaceae		26	133
Erysiphaceae		27	135
Perisporiaceae		11	136
Capnodiaceae		8	137
Sphaeriales			
	With ascospores		
Amerosporae	One-celled, not filiform		
Allantosporae	Sausage-shaped	90	137
Hyalosporae	Not allantoid, pale	75	143
Phaeosporae	Not allantoid, dark	166	147
Didymosporae	Two-celled		
Hyalodidymae	Pale	278	157
Phaeodidymae	Dark	67	173
Phragmosporae	With two or more cross septa		
Hyalophragmiae	Pale	84	176
Phaeophragmiae	Dark	150	181
Dictyosporae	With cross and longitudinal septa	83	189
Scolecosporae	Filiform, with or without septa	31	193
Hypocreales			
Nectriaceae		109	195
Hypocreaceae		31	202
Lophiostomataceae		27	204
Dothideales		23	205
Myriangiaceae		4	207
Microthyriales		16	207
Hysteriales		56	208
	Total entries	1423	

LIST OF SPECIES

LABOULBENIALES

British mycologists have not searched for Laboulbeniales. The records below are all from determinations and reports by the late Dr Thaxter. *Laboulbenia vulgaris* and *Stigmatomyces purpureus* were first announced by Sir Rowland Biffen. All other records were compiled at the British Museum (Natural History), and nearly all are represented there by slides. The majority have been reported by Winifrede Hake **28**[1] (IX, 78–82, 1923), with names of the insect hosts.

Cantharomyces denigratus Thaxt., New Forest.
— **italicus** Speg., New Forest.
— **Plathystethi** Thaxt., co-type, Kilburn.
Chitonomyces melanurus Peyritsch is given by Miss Hake, but was not cited as British by Thaxter.
— **paradoxus** (Peyritsch) Thaxt., England.
Compsomyces Lestevi Thaxt., England and Scotland.
Dichomyces biformis Thaxt., Leicester and Scotland.
— **furciferus** Thaxt., Scotland.

[1] Figures in Clarendon type refer to the List of References (p. 215). Roman numerals give the volume, and the number following, the page. An asterisk (*) indicates a figure or figures. Not all references have been assigned numbers (cf. p. 129).

Dichomyces hybridus Thaxt., Ealing.
— **inaequalis** Thaxt., Scotland.
— **vulgatus** Thaxt., London and Scotland.
Euhaplomyces Ancyrophori Thaxt., gen.nov., Scotland.
Euzodiomyces Lathrobii Thaxt., gen.nov., Notting Hill and Thornhill.
Haplomyces texanus Thaxt., Isle of Wight.
Helodiomyces elegans Picard, Brockenhurst.
Idiomyces Peyritschii Thaxt., England and Scotland.
Laboulbenia Cafii Thaxt., co-type, Britain.
— **Casnoniae** Thaxt., England.
— **clivinalis** Thaxt., co-type, England.
— **dubia** Thaxt., co-type, Alverstoke.
— **fasciculata** Peyritsch, Britain.
— **flagellata** Peyritsch, England.
— **Gyrinidarum** Thaxt., Britain.
— **Nebriae** Peyritsch, Whallen.
— **pedicillata** Thaxt., co-type, England.
— **Rougetii** Mont. & Robin, England.
— **subterranea** Thaxt., Cowley & Rathay (given by Miss Hake as *L. Stilici* Thaxt.).
— **vulgaris** Peyritsch. Biffen **28** (III, 83, 1909). Durnford Fen, Cambs.
Misgomyces Dyschirii Thaxt., gen.nov., England.
Monoicomyces Athetae Thaxt., New Forest.
— **britannicus** Thaxt., Hammersmith and Paisley.
— **Homalotae** Thaxt., Britain.
Peyritschiella protea Thaxt., Hampstead.
Polyascomyces Trichophyae Thaxt., gen.nov., Farnham.
Rhachomyces furcatus Thaxt., Britain.
— **philonthinus** Thaxt., Britain.
Rhadinomyces pallidus Thaxt., England. "Var. A" is also reported.
Stigmatomyces purpureus Thaxt. Biffen **28** (III, 83, 1909). Cornwall.
Symplectromyces vulgaris Thaxt., gen.nov., Britain.
Teratomyces Actobii Thaxt., Cowley & Merton.

GYMNOASCALES

The Gymnoascaceae are now considered to be Pyrenomycetes, but many of them were not recognized as Ascomycetes in the earlier literature. The Endomycetaceae are scarcely Pyrenomycetes, but British records noted for this family are included. The Saccharomycetaceae are omitted.

ENDOMYCETACEAE

Byssochlamys fulva Olliver & G. Smith in **27** (LXXI, 196*, 1933); *Biochem. J.* XXVII, 1814, 1933; *J. Soc. Chem. Ind.* LIII, 166T; *Rep. Fruit Veg. Pres. Sta. Campden*, 1933–4, p. 63; *Rep. London School Hyg.* 1934–5, p. 27; **100** (1935, 148*); G. Smith, *An Introduction to Industrial Mycology*, p. 50*. In tinned and bottled fruits, and in the field. The ascospores withstand 87° C.
Endomyces coprophilus Massee & Salm. in **33** (XV, 324*, 1901); Sacc. XVIII, 202. On dung, Kew.
Endomyces decipiens (Tul.) Reess. Ramsbottom, *Handbook of the Larger British Fungi* (33, 1923), between gills of *Armillaria mellea* (Vahl) Fr.
Eremascus fertilis Stoppel. Annie Betts **74** (VII, 136, 1912). In beehives.

MONASCACEAE

Monascus purpureus Went. G. Smith, *An Introduction to Industrial Mycology*, p. 50*. "Not uncommon, particularly in dairy products." No specific British record traced.

GYMNOASCACEAE

Arachniotus aureus (Eidam) Cohn. Massee **37** (1909, 374). On *Fagus*, Kew.
— **candidus** (Eidam) Schroet. Massee & Salmon **33** (xvi, 62*, 1902); Elizabeth Dale **33** (xvii, 571*, life history) as *Gymnoascus*. On bee's nest, dung and grass.
— **citrinus** Massee & Salm. in **33** (xvi, 62*, 1902); Sacc. xviii, 194. On dung, Kew.
[**Bolacotricha grisea** Berk. & Br. gen.nov. in **19**, no. 506*, 1851 (as Imperfecti); Sacc. iv, 317; **7**, 309, as member of Gymnoascaceae. Described on *Typha* and *Brassica*; von Höhnel (*Frag. Myk.* no. 565) found both specimens to be *Chaetomium murorum*.]
Ctenomyces serratus Eidam. A. Lorrain Smith **27** (xli, 257*, 1903); **28** (vi, 78; x, 314); Grove **27** (lx, 170). On decaying leaves, etc. A. Lorrain Smith **27** (xlii, 55) placed *Arthroderma* Currey in **68** A (ii, 240, 1854) here; the type is *A. Curreyi* Berk. in **18**, 357, 1860; Salmon **73** (2, i, 374*); *Illosporium* Sacc. in *Syll.* iv, 660.
Gymnoascus Reessii Baran. Grove **27** (xxiv, 130, 1886); A. Lorrain Smith **28** (i, 183); **68** (1901, 614); Massee **8** (iv, 19*); **33** (xv, 313 and 325; xvi, 58; xvii, 571*); **28** (xx, 217). On dung, seeds, etc.
— **ruber** van Tiegh. Grove **27** (xxiv, 130, 1886); Massee **8** (iv, 19); **74** (vii, 141*); **33** (xv, 324) as *Arachniotus*. On dung, bees, etc.
— **setosus** Eidam. Massee & Salmon **33** (xvi, 63*, 1902); Elizabeth Dale **33** (xvii, 571*, life history); **33** (l, 702); Annie Betts **74** (vii, 138*); **33** (xv, 350, 1901) as *Myxotrichum*. In beehives.
— **subumbrinus** A. L. Smith & Ramsb. in **28** (v, 424, 1917). On soil, associated with *Isaria farinosa*.
— **verticillatus** A. L. Smith in **68** (1900, 423*); Sacc. xvi, 805. On bones, Isleworth.
Myxotrichum aeruginosum Mont. Massee & Salmon **33** (xvi, 65*, 1902) report that herbarium specimens marked *M. ochraceum* contain *M. aeruginosum*.
— **cancellatum** Phill. in **14** (xiii, 51, 1884); Sacc. iv, 318. On dead stems, Shrewsbury.
— **chartarum** Kunze ex Fr. Berk. **19**, no. 121*, 1838; Cooke **15**, 612*; **33** (xvi, 65, 1902); Berk. Exs. 207. On dung, etc.
— **deflexum** Berk. in **19**, no. 122*, 1838; Sacc. iv, 318; Cooke **15**, 613; **35** (1905, 254). On old paper and wood. See next.
— **ochraceum** Berk. & Br. in **19**, no. 1475*, 1875; Sacc. iv, 318. On shavings, Bath. Massee & Salmon **33** (xvi, 65*, 1902) found *M. deflexum* on the type. See *M. aeruginosum*.
— **spinosum** Massee & Salm. in **33** (xvi, 64*, 1902); Sacc. xviii, 195; Massee **37** (1912, 165*). On bark, etc., Kew.
— **uncinatum** (Eidam) Schroet. Massee & Salmon **33** (xv, 325*, 1901; xvi, 65). On dung, Kew.

PERISPORIALES

EUROTIACEAE

Anixia cyclospora (Cooke) Sacc. in *Syll.* i, 36, 1882; **7**, 240; *Sphaeria* Cooke in **59**, Jan. 1871*; *Orbicula* Cooke in **15**, 926*, 1871. On paper, etc. The genus *Anixia* Fr. is said to be based on a Gasteromycete, but the name is used here pending study of the specimens.
— **perichaenioides** (Cooke) Sacc. in *Syll.* i, 35; *Orbicula* Cooke in **14** (viii, 10, 1879); **13**, 351; Bucknall **46** (v, 54, 1886). On old wood. Schroeter, *Krypt.-Flora Schlesien*, places this and the next two as synonyms of *Mycogala parietinum* (Schrad. ex Fr.) Rostaf.; see also von Höhnel, *Frag. Myk.* no. 880. *Chaetomium glabrum* (q.v.) is probably a synonym.

Anixia spadicea Fuckel. Crossland **7**A, 275, 1904; **7**, 240. On old cloth, Yorks.
— **truncigena** H. Hoffm. A. Lorrain Smith **28** (III, 117, 1909). On dung, Scotland.
Anixiopsis stercoraria (Hansen) Hansen. Massee & Salmon **33** (XVI, 67*, 1902). On owl castings, Kew.
Arachnomyces nitidus Massee & Salm. gen.nov. in **33** (XVI, 68*, 1902); Sacc. XVII, 532; **7**, 240. On dung and decayed plants.
— **sulphureus** Massee & Salm. in **33** (XVI, 68*, 1902); Sacc. XVII, 532. On bees' nest, Kew.
Cephalotheca Kriegeri Rehm. Grove **37** (1921, 154) considered that Cooke Exs. II, no. 413 as *Phoma chartarum* belonged here. On millboard, London. Von Höhnel **102** (1917, 361) stated that *C. Kriegeri* is a *Gnomoniella*.
— **purpurea** (Shear) Chesters in **28** (XIX, 262*, 1935). On *Fagus* and *Quercus*, Surrey.
— **reniformis** Sacc. & Therry. Chesters **28** (XIX, 261*, 1935). On *Fagus* and *Quercus*, Surrey and Birmingham.
— **sulfurea** Fuckel. B. & Br. **19**, No. 1729*, 1878; Cooke **14** (VI, 128, 1878); Bucknall **46** (III, 69); life history by Chesters **28** (XIX, 261*). On rotted wood.
Eurotium fulvescens (Cooke) Cooke in **14** (VIII, 11, 1879); Stevenson **13**, 355, 1879; Sacc. I, 28; *Badhamia* Cooke in **14** (IV, 69*, 1875). On old sacking, Scotland.
— **herbariorum** Link ex Fr. Greville **39**, t. 164, 1825; Berk. **20**, 333; Cooke **52**, 221*; **15**, 654*; Massee **37** (1897, 139); **7**, 240; **102** (V, 419); Barnes **73** (2, XVI, 28); Vize Exs. 144; **74** (VII, 143*) and **28** (XVII, 221) as *Aspergillus glaucus*; *Farinaria sulphurea* Sowerby in **42**, t. 379, 1803. On old plants, etc.
For other British species of *Aspergillus* which produce perithecia see G. Smith, *An Introduction to Industrial Mycology*, 1938.
— **insigne** Wint. Massee & Salmon **33** (XV, 331, 1901 and XVI, 67). On dung.
— **lateritium** Mont. B. & Br. **19**, No. 1925, 1881; Cooke **14** (X, 51, 1881); **37** (1897, 139); **7**, 240. On stale bread, etc.
— **microsporum** Massee & Salm. in **33** (XV, 333*, 1901; XVI, 67); Sacc. XVII, 527. On dung, Kew.
— **repens** de Bary. Elizabeth Dale **102** (VII, 215, 1909, morphology); Forbes **75** (XXII, 123, 1924, from the Underground Railway in London).
Magnusia Bartlettii Massee & Salm. in **33** (XV, 333*, 1901; XVI, 71); Sacc. XVII, 531. On dung, Kew.
— **nitida** Sacc. Massee & Salmon **33** (XVI, 69*, 1902). On dung, Surrey.
Microascus nidicola Massee & Salm. in **33** (XV, 350*, 1901); Sacc. XVII, 610. In a bees' nest, Kew.
— **variabilis** Massee & Salm. in **33** (XV, 349*, 1901; XVI, 74); Sacc. XVII, 610. On dung, Kew and Cheshire.
Microeurotium albidum Ghatak gen.nov. in **33** (L, 860*, 1936). Appeared as a contaminant in a culture of *Poronia*.
Pleuroascus Nicholsoni Massee & Salm. gen.nov. in **33** (XV, 330*, 1901); Sacc. XVII, 532. On dung, Kew.
Thielavia basicola Zopf. Massee **35** (1909, 238*) claimed to have found perithecia of this species associated with *Thielaviopsis basicola* (a distinct species: see *Connecticut Exp. Sta. Bull.* 269, 1925); see also **37** (1912, 46*) and **50**, 50.
— **Soppittii** Crossland in **35** (1900, 7*); Sacc. XVI, 807; **7**A, 275*; **7**, 240. On *Carduus*, Yorks.
Zopfia rhizophila Rabenh. Proudlock **23** (XXXIII, 1043, 1927); **22** (Misc. Publ. 70, p. 40, 1929); **78** (1930, 127); **85** (XXVIII, 24; XXIX, 16; XXXI, 14); **31** (LXXXVII, 275); **112**, 112. On *Asparagus*.

ERYSIPHACEAE

There are countless British records of Powdery Mildews. Salmon (**30** and Supplements) has covered the literature up to 1900. See also Massee **50**, 1913. The species recorded as British by Salmon and subsequent workers are included here, and a few of the references to recent literature. Blumer's "Die Erysiphaceen Mitteleuropas" should be consulted.

Many of the names used by Salmon and now almost universally accepted are pre-Friesian, but were not adopted in the *Systema*. It would be very difficult to decide on correct names for the Erysiphaceae if one started from 1823, and the result of the attempt would be great confusion. We have therefore accepted the citations as Salmon gives them, and believe it would be preferable to begin the Nomenclature of the Erysiphaceae with Persoon, 1801.

Erysiphe Cichoracearum DC. Salmon **30**, 193*; **65** (xxx, 342); **56** (xxvii, 941); **32** (iii, 109; xxxiv, 194); **23** (xvii, 185; xxxii, 52); **79** (v, 25 and 32; vii, 35; viii, 25; ix, 43; xi, 48).

— **Galeopsidis** DC. Salmon **30**, 204*; **28** (iii, 115); **32** (iii, 109).

— **graminis** DC. Salmon **30**, 209*; **33** (xviii, 320; xix, 125 and 444); **32** (iii, 55 and 109; iv, 217; xxxiv, 180); **103** (ii, 109; iii, 400; v, 231); **27** (xli, 159 and 204); **23** (xix, 618); **79** (ii, 30; iii, 23; v, 27; xi, 43); **65** (xxx, 328); **85** (xxxi, 13); **66** (cxcvii b, 107; cxcviii, 87); **67** (1904 and 1905).

— **Polygoni** DC. Salmon **30**, 174*; **28** (vi, 274); **24** (xvii, 106; xviii, 294; xix, 91); **76** (iii, 38); **65** (xxx, 338); **37** (1918, 17); **56** (xxvii, 938); **25** (xxvii, 16); **80**, 99; **79** (vols. i, iii, iv, vii, xi, xii, xiii); **85** (xxii, 487; xxxiii, 19; xxxvii, 19); **23** (xv, 510) as *E. Martii*.

— **tortilis** (Wallr.) Fr. Salmon **30**, 213*.

Microsphaera Alni (Wallr.) Wint. var. **extensa** (Cooke & Peck) Salm. *Oidium* stage recorded **64** (xxxvi, 92, 1922). Neither Salmon nor Blumer reports it for Europe.

— **Astragali** (DC.) Trev. Salmon **30**, 127*.

— **Baumleri** P. Magn. Salmon **30**, 170*, Scotland.

— **Berberidis** (DC.) Lév. Salmon **30**, 123*.

— **Euonymi** (DC.) Sacc. Salmon **30**, 125; **79** (ii, 32; v, 31).

— **Grossulariae** (Wallr.) Lév. Salmon **30**, 157*; **23** (iv, 202, 1897; viii, 1; xiv); **24** (xii, 205; xxx, 340); **56** (xxv, 145); **77** (1924, 117); **79** (i, 30; v, 26; x, 38; xi, 51); **85** (xvi, 298).

— **Mougeotii** Lév. Salmon **30**, 159*.

Phyllactinia corylea (Pers.) Karst. Salmon **30**, 224*; **23** (xv, 509).

Podosphaera leucotricha (Ell. & Ev.) Salm. in **30**, 40*, Britain not listed; **23** (xv, 510; xvii, 185 and 890); **25** (xxv, 273; xxxiv, 97); **32** (xxxiv, 180); **65** (xxx, 328); **56** (xxvi, 737); **79** (i, 29; iv, 5; v, 26; xi, 50 and 55); **85** (xxvii, 87); **104** (ii, 100; iii, 160; viii, 283; x, 271; xii, 57); **23** (xiv, 357 and 417) as *Sphaerotheca Mali* Burr.

— **Oxyacanthae** (DC.) de Bary. Salmon **30**, 29*; **23** (xv, 441; xvii, 652); **56** (xxvii, 940); **65** (xxx, 338); **79** (v, 31); **28** (iii, 115 and 366; iv, 325) as *P. myrtillina*.

— **Oxyacanthae** var. **tridactyla** (Wallr.) Salm. in **30**, 36*.

Sphaerotheca Euphorbiae (Cast.) Salm. Recorded **28** (xi, 7 and xxii, 10) as *S. tomentosa* Otth, on *Euphorbia*, at two forays.

— **Humuli** (DC.) Burrill. Salmon **30**, 45*; **24** (xii, 205); **23** (xvii, 185; xx, 960 and 1071; xxii, 137; xxviii, 150 and 262); **32** (iii, 109); **34** (iii, 93; xvii, 129); **56** (xxv, 132; xxvii, 941); **65** (xxx, 338); **66** (cxcvii b, 7); **79** (iii, 25; iv, 6; v, 26; x, 39; xi, 53); **85** (1923 and 1927 to 1936); **103** (ii, 327; vii, 473; viii, 455; xii, 269); **23** (iii, 291, 1896; v, 199; xiii, 498; xiv, 295) as *S. Castagnei* Lév.

— **Humuli** var. **fuliginea** (Schlecht.) Salm. in **30**, 49*; **32** (iii, 109).

Sphaerotheca mors-uvae (Schwein.) Berk. & Curt. First record for Europe by Massee **31** (Apr. 25, 1900*) from Antrim, Ireland; Salmon **30**A, 93, 1902; **56** (xxv, 139*, 1900; xxvi, 778; xxvii, 596); **5**, 146*; **93**, 162; **22** (xxvii, 38); **23** (1901, 1906–1909, 1916); **24** (xii, 205); **25** (iii, 17; vii, 479; xxix, 188; xxxiv, 97); **34** (i, 177); **49** (i, 45; iii, 83); **65** (xxxvi, 1; xxx, 338); **79** (i, iv, x, xi); **85** (1907–1913, 1923, 1938); **87** (vi, 67); **96** (ii, 106; iii, 130); **103** (ii, 187).

— **pannosa** (Wallr.) Lév. Salmon **30**, 65*; **23** (v, 198; xiv, 357 and 744); **32** (xxxiv, 180); **56** (xxi, 84; xxvii, 44 and 939); **65** (xxx, 338); **79** (i, 31; v, 31; xi, 58); **80**, 111; **104** (vii, 245).

— **pannosa** var. **Persicae** Woronich. **65** (xxx, 338); **79** (iii, 24; v, 30; xi, 52); **85** (xxvi, 165; xxxiii, 20; xxxv, 22).

Uncinula Aceris (DC.) Sacc. Salmon **30**, 90*; **70** (xxi, 396); **76** (iii, 38).

— **clandestina** (Biv.-Bern.) Schroet. Recorded by Massee **37** (1897, 138) as *U. Bivonae*, Kew. Salmon **30**, 97, states that this is the only British record, and that he found no specimen.

— **necator** (Schwein.) Burrill. Salmon **30**, 99*; **65** (xxx, 341); **79** (ii, 31; v. 30; vii, 24; xi, 51); **85** (xxvii, 87). Many early records as *Oidium Tuckeri* and *U. spiralis*.

— **prunastri** (DC.) Sacc. Salmon **30**, 95*.

— **Salicis** (DC.) Wint. Salmon **30**, 81*.

PERISPORIACEAE

Antennaria ericophila Link ex Fr. Recorded at Baslow Foray, **28** (iii, 146, 1910). These records of *Antennaria* are all questionable. The generic name is invalid for fungi. See **102** (xv, 483).

— **laevigata** Corda. Massee **37** (1897, 139). On *Betula*, Kew.

[— **pinophila** Nees and *A. pithyophila* are recorded, but Lindau places them both in the Imperfecti as *Hormiscium pinophilum*.]

— **semi-ovata** Berk. & Br. in **19**, No. 784*, 1854; Sacc. i, 82; Cooke **15**, 628*. On *Dryopteris*, Bath. Berkeley thought it a form of *Capnodium*.

Asteridium juniperinum (Cooke) Sacc. in *Syll.* ix, 436; *Asterina* Cooke in **14** (xvi, 77, 1888). On *Juniperus*, Scotland, together with *Antennaria pinophila*.

Irene calostroma (Desm.) von Höhnel. Recorded **28** (xxii, 10, 1938). On *Rubus*, Killarney Foray, 1936.

Lasiobotrys Lonicerae Kunze ex Fr. Greville **39**, t. 191, 1826; Berk. **20**, 325; **31** (Dec. 6, 1851); B. & Br. **19**, No. 661*, 1852; Cooke **15**, 644*; **56** (xxvii, 372); **89**, 49*; **7**, 241; Berk. Exs. 48; Cooke Exs. 463. On *Lonicera*.

Meliola Niessleana Wint. A. Lorrain Smith **28** (iii, 41, 1908). On *Vaccinium* in Scotland.

Perisporium Arundinis Desm. Berk. **19**, No. 220, 1841; Cooke **15**, 644. On "reeds".

— **funiculatum** Preuss. Crossland **7**A, 304, 1904; **7**, 241. On old cloth, Yorks.

— **princeps** Berk. in **18**, 403, 1860; Sacc. i, 57; Cooke **15**, 643; Berk. Exs. 287. On wood, Norths.

— **vulgare** Corda. B. & Br. **19**, No. 1103, 1865; Cooke **15**, 644*; Bucknall **46** (v, 131*, 1887); Stevenson **13**, 351; **35** (Oct. 1893); **37** (1897, 139); **7**, 241; Vize Exs. 83; Cooke Exs. 699, 700 and ii, No. 289; *Sporormia secedens* Bucknall in **46** (v, 46*, 1886). On old cloth, wood, etc.

ENGLERULACEAE

[**Schiffnerula pulchra** (Sacc.) Petrak. Only the bulbils, called *Coniothecium Questieri* Desm. and other names, known in Britain.]

CAPNODIACEAE

All entries except the first are based on old and dubious records.

Adelopus balsamicola (Peck) Theiss. Wilson and Waldie **28** (XIII, 152, 1928). On *Abies* in Scotland and *Pseudotsuga* in Devon.

Apiosporium Abietis Cooke in **14** (IX, 94, 1881). On twigs of living *Picea*, Scotland. Compiled by Saccardo first as *Meliola* (*Syll.* I, 69) then as *Limacinia* (XIV, 474). Specimen not found in Herb. Kew.

Capnodium australe Mont. W. G. Smith **36** (*Proc.* 1880–2, 28). On conifers in Britain.

[— **Citri** Berk. & Desm. Cooke **14** (V, 64, 1876). On leaves of *Citrus*, Exeter. Cooke's record must refer to pycnidia, and not to the perithecial *Aithaloderma Citri* (Berk. & Desm.) Woronich.]

— **elongatum** Berk. & Desm. in **56** (IV, 251*, 1849); Sacc. I, 75; B. & Br. **19**, No. 900, 1859; Cooke **15**, 933*; **56** (1879, 116); Massee **50**, 52. On *Pyrus communis*, Cornwall.

[— **Footii** Berk. & Desm. in **56** (IV, 254*, 1849); Cooke **15**, 933; Sacc. I, 80; **81**, 195; **23** (XIV, 417); **89**, 180; **50**, 52; Cooke Exs. 595 and II, No. 292; Vize Exs. 395. On leaves. This is the Type of *Microxyphium* (Sacc.) Speg. (*Physis* IV, 293), and is pycnidial.]

— **Juniperi** Phill. & Plowr. in **14** (XIII, 75, 1885); Sacc. *Addit. I–IV*, 21. On twigs of *Juniperus*, Scotland, with *Antennaria pithyophila*.

— **salicinum** Mont. Cooke **14** (I, 175, 1873); **37** (1897, 139); **7**, 241; **5**, 165; Massee **50**, 51; **112**, 112; Cooke Exs. 596 and II, No. 291; Vize Exs. 100. On leaves of *Salix*. This is the type species of the genus.

— **Tiliae** Sacc. Massee **37** (1897, 139); **7**, 241. On leaves of *Tilia*, Kew and Yorkshire. No British specimen was found in Herb. Kew.

Orbicula tartaricola (Nyl.) Cooke gen.nov. in **15**, 926, 1871; Sacc. I, 38; *Sphaeria* Nyl. apud Leighton in *Ann. Mag. Nat. Hist.* Ser. 3, XIX, 408*, 1867 and **45** (XXVII, 159*, 1870); Keissler **119**, 267. On a lichen, Dolgelly, Wales.

SPHAERIALES

SPHAERIACEAE: ALLANTOSPORAE

The arrangement of the Allantosporae by von Höhnel **102** (XVI, 128, 1918) has provided the basis for most subsequent work. See also Wehmeyer in *Amer. J. Bot.* XIII, 575, 1926. Where possible the type-host is given for each species of *Valsa*, not to suggest that a species is host-limited, but as a guide to collectors.

Calosphaeria dryina (Currey) Nits. in *Pyr. Germ.* p. 94; Sacc. I, 97; *Sphaeria* Currey in **45** (XXII, 278*, 1858); *Valsa* B. & Br. in **19**, No. 850, 1859; Cooke **15**, 824; Massee **14** (XV, 117). On *Quercus*.

— **minima** Tul. F. A. Mason **35** (1921, 216); **115**, 40. Yorks, host not given.

— **pulchella** (Pers. ex Fr.) Schroet. *Circinostoma* Gray in *Nat. Arr. Brit. Pls.* p. 521, 1821; *Cryptosphaeria* Greville in **39**, t. 67, 1824; Berk. **20**, 251 as *Sphaeria*, but not Currey **45** (XXII, 280*), teste Tul.; Cooke **15**, 828 as *Valsa*; Massee **14** (XV, 117); Cooke Exs. II, No. 680; Plowr. Exs. I, No. 48; *Calosphaeria princeps* Tul. in **114** (II, 108, 1863). On *Prunus*. Early records included *C. Wahlenbergii*.

[— **vibratilis** (Fr.) Nits. See *Massariella vibratilis*.]

— **Wahlenbergii** (Desm.) Nits. Massee **14** (XV, 117, 1887) as *C. pusilla* (see Introduction, p. 129). On bark, Batheaston; on *Betula* (see Appendix I).

Coronophora angustata Fuckel. Hawley **28** (VIII, 230); Bucknall **46** (IV, 202, 1885) as *Valsa*. On *Betula* and *Fagus*.

— **gregaria** (Lib.) Fuckel. Massee **14** (XV, 70, 1887); Bucknall **46** (V, 47*, 1886) as *Valsa*. On twigs near Bristol.

Cryptosphaeria eunomia (Fr.) Fuckel. Chesters **113** (1938, 181*); most British records based on *Cryptosphaeria millepunctata* Greville in **51**, 360, 1824 and **39**, t. 201, 1826; Sacc. I, 182; Cooke **14** (XI, 76); Massee **14** (XVIII, 10); **7**, 233; *Sphaeria millepunctata* Grev. in **39**, Index; Cooke **15**, 885; Berk. Exs. 84; Cooke Exs. II, No. 245; Plowr. Exs. I, No. 83; Grove **27** (LXVI, 354) as *Cladosphaeria eunomioides* (Otth) Nits.; *Sphaeria corticis* Sowerby in **42**, t. 372, 1802; Currey **45** (XXII, 328*). Common on *Fraxinus*. The spores may become septate. See Wehmeyer, *Amer. J. Bot.* XIII, 237, 1926.

Greville based his genus *Cryptosphaeria* on *C. Taxi* (Sow.) Grev. in **39**, t. 13, 1823. This is now called *Diplodia Taxi* (Sow. ex Fr.) de Not.; see Grove **1** (II, 60). Greville subsequently placed various fungi in *Cryptosphaeria*; twenty species including *C. millepunctata* are given in **51**, 359–63, 1824. He finally (**39**, Index) discarded the genus.

— **ocellata** (Fr.) Ces. & de Not. Massee **14** (XVIII, 10); Berk. **20**, 268, 1836 as *Sphaeria*; Currey **45** (XXII, 324*); Cooke **15**, 886; *S. brevis* Sowerby in **42**, t. 394, 1803. On *Fraxinus*, *Salix*, etc. The species is doubtful, the British records more so.

Cryptovalsa elevata (Berk.) Sacc. in *Syll.* I, 191; Currey **45** (XXII, 274*, 1858) as *Sphaeria*; *Diatrype* B. & Br. in **19**, No. 844, 1859; *Eutypa* Cooke in **15**, 801. On *Euonymus*, Batheaston. The type collection of *Sphaeria elevata* Berk. in **21** (1845, 298) was from Australia; the British fungus does not agree with the type and is probably a *Diatrypella*.

— **protracta** (Pers. ex Fr.) Ces. & de Not. **37** (1936, 65); Bucknall **46** (V, 127* and 131, 1887) as *C. Nitschkei* Fuckel. On *Fraxinus*.

Diatrype Berberidis Cooke in **14** (XIV, 14, 1885); Sacc. *Addit. I–IV*, 35; Bucknall **46** (V, 51, 1886); Berlese **98** (III, 87*). On *Berberis*, Bristol.

— **Brassicae** Cooke in **14** (XIII, 100, 1885); Sacc. *Addit. I–IV*, 34; Bucknall **46** (V, 51, 1886); **14** (XV, 69). On *Brassica*. Berlese **98** (III, 104) found the type specimen decayed and useless.

— **bullata** (Hoffm. ex Fr.) Fr. Cooke **15**, 812; Massee **14** (XV, 68); **7**, 222; Plowr. Exs. I, No. 34; Vize Exs. 158; Cooke Exs. 485 and II, No. 674; Hooker **92**, 5, 1821 as *Sphaeria*; Berk. **20**, 241; *S. depressa* Bolton in **111**, t. 122, 1789. On *Salix*.

— **disciformis** (Hoffm. ex Fr.) Fr. Tul. **114** (II, 95); Cooke **15**, 812; **14** (XV, 68); Plowr. Exs. I, No. 33; Cooke Exs. 389 and II, 218; Vize Exs. 159; Hooker **92**, 5, 1821 as *Sphaeria*; Berk. **20**, 241; Currey **45** (XXII, 268*); *Stromatosphaeria* Greville in **51**, 357, 1824; **39**, t. 314. On *Fagus*, etc.

— **stigma** (Hoffm. ex Fr.) Fr. Cooke **15**, 811, 1871; Massee **14** (XV, 68); Chesters **113** (1936, 129*); Cooke Exs. 240 and II, No. 217; Vize Exs. 285; Plowr. Exs. I, No. 32; Hooker **92**, 5, 1821 as *Sphaeria*; Berk. **20**, 241; Currey **45** (XXII, 271*); Greville **51**, 356, 1824; *Stromatosphaeria* Greville in **39**, t. 223, 1826; *Stictosphaeria Hoffmanni* Tul. in **114** (II, 49, 1863); first British record apparently *Sphaeria decorticans* Sowerby in **42**, t. 137, 1798, then perhaps as *S. Kirbii* in **42**, t. 371, 1802, and *S. cinerea* in **42**, t. 373, 1802; Hooker **92**, 5, 1821 as *S. undulata* Pers.; Greville **39**, t. 223, 1826; Berk. **20**, 241; Cooke **15**, 814. Common on bark and wood, and should no doubt include many reputed species of *Eutypa*.

Diatrypella aspera (Fr.) Nits. Cooke **15**, 810, 1871 as *Diatrype*; Massee **14** (XV, 68); Bucknall **46** (III, 69); **7**, 221; Berk. **20**, 242, 1836 as *Sphaeria*. On *Fagus*, etc. See Croxall **28** (XXII, 307, 1939) on the genus *Diatrypella*.

— **discoidea** Cooke & Peck in Thüm. Reported by Massee & Crossland **7**, 221, 1905 as *Diatrype*. On *Betula*, Yorks.

— **exigua** Wint. Rea & Hawley **71** (XXXI, Part 13, p. 7, 1912). On *Salix*, Clare Island.

— **favacea** (Fr.) Ces. & de Not. Chesters **113** (1935, 97*); Plowr. Exs. III, No. 20; Cooke **15**, 810, 1871 as *Diatrype*; **14** (XV, 68); Berk. **20**, 242, 1836 as *Sphaeria*; **19**, No. 17, 1837. On *Betula*. Chesters & Croxall **113** (1937, 158) consider that *D. verruciformis* and *D. Tocciaeana* probably belong here.—*D. favacea* is considered the type species of the genus.

Diatrypella nigro-annulata (Grev.) Nits. in *Pyren. Germ.* p. 81; Sacc. I, 202; *Stromatosphaeria* Greville in **51**, 358, 1824 (on *Tilia*); Massee **14** (xv, 68) as *Diatrype*; Berk. **20**, 248, 1836 as *Sphaeria angulata* Fr.; B. & Br. **19**, No. 848, 1859 as *Valsa angulata*; Cooke **15**, 811 as *Diatrype angulata*, "on beech, laburnum, birch and lime". Von Höhnel (*Fragm. Myk.* 887) considers *D. nigro-annulata* a small form of *D. verruciformis*. Fries's name "*angulata*" should be used, if this species be distinct.

— **quercina** (Pers. ex Fr.) Cooke in **27** (IV, 99*, 1866); Chesters & Croxall **113** (1937, 156*); Cooke **15**, 810 as *Diatrype*; Massee **14** (xv, 68); Tul. **114** (II, 97); Vize Exs. 491; Cooke Exs. 242 and II, Nos. 219, 678; Plowr. Exs. I, No. 31. Greville's record as *Stromatosphaeria* (**51**, 358, 1824) may have referred to this species, at least in part; but see *Pseudovalsa longipes*. Common on *Quercus*.

— **Rhois** (Schwein.) Ell. & Ev. Massee **37** (Add. Ser. v, 148, 1906). On *Rhus*, Kew.

— **Tocciaeana** de Not. Chesters & Croxall **113** (1937, 158) redescribed it but considered it probably a form of *D. favacea*; Massee **14** (xv, 68) as *Diatrype*; Vize Exs. 287; Cooke **14** (I, 155, 1873) and Stevenson **40** (VII, 89) as *Diatrype verruciformis* var. *Tocciaeana*; Cooke Exs. 483. On *Alnus*.

— **verruciformis** (Ehrh. ex Fr.) Nits. Chesters & Croxall **113** (1937, 157*) redescribed it, but consider it probably a form of *D. favacea* (see also Tul. **114** (II, 99, 298)); Berk. **20**, 242, 1836 as *Sphaeria*; Currey **45** (XXII, 270*); Massee **14** (xv, 68) as *Diatrype*; Cooke Exs. 483 and II, No. 220; Vize Exs. 286; Plowr. Exs. II, No. 20; first British record presumed to be *Sphaeria parallela* Sowerby in **42**, t. 394, 1803. Type on *Corylus*.—Cooke **27** (IV, 100, 1866) mentions "*D*[*iatrypella*] *affinis*" (a nomen nudum) which he later, **14** (XIV, 14), referred to *D. verruciformis*, and Massee **14** (xv, 68) called it "*Diatrype verruciformis* var. *affinis* Cooke". On *Sambucus*.

Enchnoa infernalis (Kunze ex Fr.) Fuckel. Massee **14** (XVIII, 10); **37** (1936, 66); *Sphaeria glis* Berk. & Currey apud B. & Br. in **19**, No. 884, 1859; Currey **45** (XXII, 314*); Cooke **15**, 884; Plowr. Exs. III, No. 56. On *Quercus*.

— **lanata** (Fr.) Fr. Massee **14** (XVIII, 10); Berk. **19**, No. 185, 1841 as *Sphaeria*; Cooke **15**, 884. On *Betula*.

Eutypa Acharii Tul. in **114** (II, 53*, 1863); Cooke **15**, 798*; Massee **14** (xv, 120); Bucknall **46** (III, 68); **7**, 224; Vize Exs. 588; Plowr. Exs. I, No. 22; Cooke Exs. 365; *Sphaeria decomponens* Sowerby in **42**, t. 217, 1799; Berk. **20**, 267 as *S. eutypa*; Currey **45** (XXII, t. 47); Berk. Exs. 178. Common on dead branches.

— **aspera** (Nits.) Fuckel. B. & Br. **19**, No. 1726, 1878; Cooke **14** (VI, 128, 1878; VII, 80); Massee **14** (xv, 121); **7**, 224. On wood.

— **flavovirens** (Pers. ex Fr.) Tul. in **114** (II, 56*, 1863); Cooke **15**, 799; **7**, 225; Vize Exs. 283; Cooke Exs. 368 and II, No. 469; Plowr. Exs. I, No. 23; Berk. **20**, 240 as *Sphaeria*; Currey **45** (XXII, 268*); *Stromatosphaeria* Greville in **39**, t. 320, 1828; *Sphaeria multiceps* Sowerby in **42**, t. 394, 1803; *Stromatosphaeria multiceps* Grev. in **51**, 356. Common on wood and bark. Hoffmann's specific epithet "*flavovirescens*" is often used, but Fries adopted "*flavovirens*".

— **hydnoidea** (Fr.) von Höhnel. Foray records in Appendix I; B. & Br. **19**, No. 1814, 1879 as *Radulum aterrimum* Fr.; see Rea **2**, 641. On *Betula*. The supposed perithecia have not been reported in Britain. The fungus is sometimes called *Eutypa aterrima*. See Lind, *Danish Fungi* p. 553*.

— **lata** (Pers. ex Fr.) Tul. in **114** (II, 55, 1863); Cooke **15**, 799; Massee **14** (xv, 121); **7**, 224; Vize Exs. 284; Cooke Exs. 375 and II, Nos. 470, 471; Plowr. Exs. II, No. 13; Hooker **92**, 6, 1821 as *Sphaeria*; Berk. **20**, 245; Currey **45** (XXII, 274*); *S. fuliginosa* Sowerby in **42**, t. 373, 1802. On wood.

— **leioplaca** (Fr.) Cooke in **15**, 800, 1871; Massee **14** (XV,121); Cooke Exs. 366; Plowr. Exs. II, No. 14; Berk. **20**, 245, 1836 as *Sphaeria*; Currey **45** (XXII, 273*); *S. immersa* Sowerby in **42**, t. 394, 1802. On wood.

— **leprosa** (Fr.) Sacc. Currey **45** (XXII, 271, 1858) as *Sphaeria*; B. & Br. **19**, No. 1986, 1882; Cooke **14** (XI, 16). On *Tilia*, Penzance. Berlese **98** (III, 50) considered it the same as *E. ludibunda*.

Eutypa ludibunda (Sacc.) Sacc. Berlese **98** (III, 69, 1902) states that Cooke Exs. 361 and 362, issued as *Valsa stellulata*, are this species; Rilstone **27** (1935, 102) as *V. ludibunda* on *Ligustrum*.

— **maura** (Fr.) Sacc. Massee **14** (xv, 121, 1887). On wood, Highgate.

— **prorumpens** (Wallr. in Fr.) Sacc. Massee **14** (xv, 121, 1887). On *Pyrus Aucuparia*, Kings Cliffe. Berlese **98** (III, 72) transferred the epithet to *Eutypella*, but considered the species to be confined to *Viburnum Opulus*.

— **Rhodi** (Nits.) Fuckel. Cooke **15**, 800, 1871; Massee **14** (xv, 121); Bucknall **46** (IV, 201). On *Rosa*.

— **scabrosa** (Bull. ex Fr.) Fuckel. Cooke **15**, 800, 1871; Massee **14** (xv, 121); Bucknall **46** (III, 68); Berk. **19**, No. 171, 1841 as *Sphaeria*. On *Ulmus* and *Acer*.

— **spinosa** (Pers. ex Fr.) Tul. in **114** (II, 58, 1863); Cooke **15**, 799, 1871; Massee **14** (xv, 121); **7**, 224; Cooke Exs. II, No. 675; Berl. **98** (III, t. 675); Berk. **20**, 244, 1836 as *Sphaeria*; Currey **45** (xxII, 274*). On branches.

— **Ulicis** (Fr.) Sacc. Massee **14** (xv, 69 and 121); **7**, 225; B. & Br. **19**, No. 599, 1851 as *Sphaeria*; Cooke **15**, 817 as *Diatrype*. On *Ulex*.

— **velutina** (Wallr.) Sacc. Phill. & Plowr. **14** (XIII, 75, 1885); Grove **27** (xxIII, 131, 1885). On *Acer*.

Eutypella Ailanthi (Sacc.) Sacc. Massee **14** (xv, 70, 1887) as *Valsa*. On *Ailanthus*, Kew.

— **microspora** (Cooke & Plowr.) Sacc. in *Syll.* I, 155; Berl. **98** (III, 58*); *Valsa* Cooke & Plowr. in **14** (VII, 82, 1879); Massee **14** (xv, 70); Plowr. Exs. III, No. 23. On *Fagus*, Norfolk.

— **prunastri** (Pers. ex Fr.) Sacc. Massee **31** (Sept. 27, 1902); **5**, 171*; **89**, 111; **56** (xxvI, 742*); **23** (IX, 261; xv, 690); **56** (xxvI, 742*; xxvII, 691, 736 and 1152); **24** (XII, 208); **34** (x, 254); Hooker **92**, 6, 1821 as *Sphaeria*; Berk. **20**, 246, 1836; Currey **45** (xxII, 275); Berk. Exs. 29; Cooke **15**, 821 as *Valsa*; **14** (xv, 70); Cooke Exs. 237; Plowr. Exs. I, No. 41. On *Prunus spinosa*.

— **Sorbi** (Schmidt ex Fr.) Sacc. Foray 1930 (see Appendix I); Massee **14** (xv, 70, 1877) as *Valsa*. On *Pyrus Aucuparia*.

— **stellulata** (Fr.) Sacc. Berk. **20**, 246, 1836 as *Sphaeria*; Currey **45** (xxII, 275*); Berk. Exs. 79; Cooke **15**, 821 as *Valsa*; Massee **14** (xv, 70); Plowr. Exs. I, No. 42; Cooke Exs. 382 and II, No. 677; Vize Exs. 164; see Berlese **98** (III, 69). On *Ulmus* (and *Acer*?). See *Eutypa ludibunda*.

— **tetraploa** (Berk. & Curt.) Sacc. B. & Br. **19**, No. 854, 1859 as *Valsa*; Cooke **15**, 827; Massee **14** (xv, 70); Bucknall **46** (II, 217). On sticks.

Nitschkia cupularis (Pers. ex Fr.) Karst. Massee **14** (XVI, 34); **7**, 226; Fitzpatrick **100** (xv, 32, 1923); *Cucurbitaria* Gray in *Nat. Arr. Brit. Pls.* p. 519, 1821; Cooke **15**, 842; Bucknall **46** (v, 51); Plowr. Exs. I, No. 57; Cooke Exs. II, No. 561; Vize Exs. 161; Berk. **20**, 254 as *Sphaeria*; Currey **45** (xxII, 281* and xxv, 249, two fungi found present); Tul. **114** (II, 244; III, 82, 84); Plowr. Exs. I, No. 63 as *Sphaeria tristis*. As Tulasne first noted, it is always associated with *Nectria cinnabarina*; see also **102** (xxv, 362). On *Prunus*, etc. Berlese **98** (III, 23*) figured what he considered to be *N. cupularis* and *N. tristis* from Britain.

— "**Fuckelii** Nits.". Fitzpatrick **100** (xv, 31) used this name for two examples of Berk. Exs. 174, issued as *Sphaeria acervata*. But the name is a synonym of the preceding: Nitschke renamed *cupularis* "*Fuckelii*" and transferred it to *Nitschkia*. Two distinct species are not recognized by British workers.

Peroneutypa heteracantha (Sacc.) Berl. One of the commoner Pyrenomycetes on bark in Britain, but it has been recorded as *Peroneutypa* only in recent Foray lists; A. Lorrain Smith **27** (XLI, 257, 1903) as *Valsa*. Earlier collections were placed under various names, e.g. on *Sambucus* as *Valsa syngenesia* (B. & Br. **19**, No. 847; Cooke **15**, 822; see Cooke **27** (IV, 99) as *Diatrype*), on *Acer Pseudoplatanus* as *Diatrype hystrix* (B. & Br. **19**, No. 840, 1859; Cooke **15**, 812); Currey had it on *Ulmus* under the name *Diatrype corniculata* (see next entry) and Cooke incorrectly based the first British records (**27** (IV, 101*, 1866); **15**,

825, 1871) of *Valsa ceratophora* on *Ulmus* on the same fungus. The earliest correct specific epithet can hardly be ascertained until Persoon's herbarium is examined.

[**Peroneutypa corniculata** (Ehrh.?) Berl. in **98** (III, 80*, 1902). Three different species have been determined in Britain as *Sphaeria corniculata* Ehrh. *Cryptosphaeria corniculata* (Ehrh.) Greville in **51**, 358, 1824, "on dead branches of various trees", is a *Diaporthe*, perhaps *D. eres*. *Diatrype corniculata* (Ehrh.) Berk. & Br. in **19**, No. 845, 1859 in a *Eu-Valsa* on *Quercus*, with stromata resembling those of *Valsa ceratophora*, but with longer ascospores, up to 14 μ. Finally Currey collected specimens, on corky *Ulmus*, with ascospores up to 6 μ long. This must have been the collection forwarded by Cooke to Berlese on which the latter founded the species *P. corniculata*. This fungus is the same as the preceding. Other entries of "*corniculata*" are Hooker **92**, 6; Berk. **20**, 247; Cooke **15**, 813; **14** (XV, 69); **7**, 222.]

Quaternaria abnormis (Fr.) Berl. & Vogl. *Valsa* Cooke in **14** (XIII, 39, 1884); Massee **14** (XV, 116). On branches, Shere.

— **dissepta** (Fr.) Tul. in **114** (II, 106, 1863); Rhodes **108** (1933, 49); Berk. **20**, 249, 1836 as *Sphaeria*; **19**, No. 173, 1841; Cooke **15**, 823 as *Valsa*; Massee **14** (XV, 116); Cooke Exs. II, No. 230; Plowr. Exs. I, No. 44; *Eutypa* Berl. in **98** (III, 48); *Sphaeria saturnus* Sowerby in **42**, t. 216, 1799; *Sphaeria stipata* Currey in **66** (CXLVII, 545*, 1858); **45** (XXII, 274*); *Diatrype stipata* B. & Br. in **19**, No. 843; **19**, No. 970, 1861; Cooke Exs. 239; B. & Br. **19**, No. 862* in error as *Valsa hypodermia*; Broome Exs. in Rabenh. *Herb. Mycol.* II, No. 320. Common on *Ulmus*, recorded probably in error on other hosts.

— **quaternata** (Pers. ex Fr.) Schroet. **37** (1936, 66); Berk. **20**, 251, 1836 as *Sphaeria*; Currey **45** (XXII, 281*); Cooke **15**, 828 as *Valsa*; Massee **14** (XV, 116); **7**, 223; Cooke Exs. 248 and II, Nos. 221, 224; Vize Exs. 167; Plowr. Exs. I, No. 49; Tul. **114** (II, 104) as *Q. Persoonii*. On *Fagus*.

Valsa Abietis (Fr.) Fr. [Monostichae]. Cooke **15**, 825, 1871; Massee **14** (XV, 71); Cooke Exs. II, No. 484; Plowr. Exs. II, No. 29; Berk. **20**, 249, 1836 as *Sphaeria*. On *Abies* [type host].

— **abrupta** Cooke in **14** (VII, 83, 1879) [Monostichae]; Sacc. I, 143; Massee **14** (XV, 70). On *Salix*, Shere. See **105** (XVII, 126).

— **ambiens** (Pers. ex Fr.) Fr. [Circinatae]. Tul. **114** (II, 175); Cooke **15**, 826; Massee **14** (XV, 71); Chesters & Croxall **113** (1937, 154*); **104** (XI, 205; XIII? 144); **89**, 120*; **56** (XXVI, CXXVII); Cooke Exs. 256, 487 and II, No. 232; Vize Exs. 163; Plowr. Exs. I, No. 46; **7**, 225 as "*Diaporthe*"; Berk. **20**, 250, 1836 as *Sphaeria*; Berk. Exs. 80; Currey **45** (XXII, 279*) p.p. as *S. tetraspora*. On *Pyrus*, *Rosa*, *Acer*, etc. The following "varieties" have been recorded:

var. **Betulae** Plowr. Exs. II, No. 33.

var. **Carpini** Cooke, Massee **14** (XV, 71).

var. **Coryli** Sacc., Massee **14** (XV, 71); Plowr. Exs. II, No. 30.

var. **Crataegi** Cooke [*Crataegus* is the type host of *V. ambiens*], Massee **14** (XV, 71); see Grove **37** (1923, 4).

var. **Mali** Sacc., Massee **14** (XV, 71); Plowr. Exs. II, No. 31; Cooke Exs. II, No. 472.

var. **Populi** Plowr. Exs. II, No. 32.

var. **Pyri** Cooke, Massee **14** (XV, 71); Cooke Exs. 684.

— **ceratophora** Tul. in **114** (II, 190*) [Monostichae, type host *Quercus*]; Massee **14** (XV, 70); **7**, 222; Cooke Exs. 251; Plowr. Exs. I, No. 45; Berk. **20**, 244, 1836 as *Sphaeria ceratosperma* Tode [ex Fr.] (this is the valid specific epithet for the *Valsa*); Currey **45** (XXII, 292); Cooke **27** (IV, 101*). On trees and shrubs. The following "varieties" are recorded:

var. **acericola** Cooke, Massee **14** (XV, 71).

var. **quercicola** Sacc., Cooke **15**, 825*; Massee **14** (XV, 71).

var. **Rosarum** de Not., Cooke **15**, 825; Massee **14** (XV, 71); Vize Exs. 170; Plowr. Exs. II, No. 28; Cooke Exs. II, No. 483 as *V. Rosarum*.

[var. **Ulmi** Massee **14** (XV, 71). This was *Peroneutypa heteracantha*.]

Valsa ceuthospora Cooke [as "*ceuthospori*"] in **14** (VII, 83, 1879); Sacc. I, 143 [as "*ceuthosporae*"]; Massee **14** (XV, 70); "*V. Laurocerasi*" in **14** (IV, 113); Cooke Exs. II, No. 468. On *Prunus Laurocerasus*. The description in **14** (IV, 113) suggests a *Diaporthe*. See Grove **1** (I, 292).

— **cincta** (Fr.) Fr. [Leucostoma, no type host cited; modern records on *Prunus*]. Grove **27** (XXIV, 131, 1886). On *Prunus*, Warwicks.

— **concamerata** (Currey) Berk. & Br. in **19**, No. 867, 1859; Cooke **15**, 824; Sacc. I, 124; *Sphaeria* Currey in **45** (XXII, 277*, 1858). On *Quercus*. Currey thought it might be a form of *V. ceratophora*.

— **cornicola** Cooke in **14** (VII, 83, 1879) [Circinatae]; Sacc. I, 122; Massee **14** (XV, 71); Bucknall **46** (V, 131). On *Cornus*. See **105** (XVII, 123).

— **coronata** (Hoffm. ex Fr.) Fr. [Monostichae; teste Fries on *Cornus* and *Crataegus*]. Cooke **15**, 825, 1871; Massee **14** (XV, 71); Bucknall **46** (IV, 201); Berk. **20**, 249, 1836 as *Sphaeria*. On *Betula*.

— **Curreyi** Nits. in *Pyr. Germ.* p. 202 [Circinatae]; Sacc. I, 132; Cooke & Plowr. **14** (VII, 83); **13**, 381; Massee **14** (XV, 72); Bucknall **46** (IV, 201); Chesters **113** (1935, 96*); Cooke Exs. II, No. 679; "*Sphaeria Abietis*" in **45** (XXII, 279*). On *Larix* [type host].

— **Cypri** (Tul.) Tul. in **114** (II, 193, 1863) [Circinatae]; Cooke **14** (I, 155, 1873 and VII, 83); Massee **14** (XV, 72); Rhodes **108** (1933, 48) as *V. Ligustri* (Schwein.) Schroet. On *Ligustrum* [type host].

— **decorticans** (Fr.) Fr. [Monostichae, type host *Fagus*]. Hawley **28** (VIII, 229, 1923). On *Carpinus* and *Fagus*.

— **diatrypa** (Fr.) Fr. [Leucostoma, type host *Alnus*]. Recorded **28** (XXII, 3); see Appendix I.

— **Fuckelii** Nits. [Monostichae]. Cooke & Plowr. **14** (VII, 83 1879); Massee **14** (XV, 71). On *Corylus* [type host], Shere.

— **germanica** Nits. [Circinatae]. Grove **27** (LX, 45 and 171, 1922, on *Salix*); Hawley **28** (VIII, 229, on *Betula*).

— **Hoffmanni** Nits. [Monostichae]. Massee **14** (XV, 71, 1887). On *Crataegus* [type host], Highgate.

— **horrida** Nits. [Monostichae]. Hawley **28** (VIII, 229, 1923). On *Betula* [type host], Sussex.

— **Kunzei** (Fr.) Fr. [Leucostoma]. Cooke **15**, 823; Massee **14** (XV, 70); Cooke Exs. II, No. 672; Plowr. Exs. III, No. 22; B. & Br. **19**, No. 601, 1851 as *Sphaeria*; Currey **45** (XXII, 227*). On *Picea* [type host].

[— **lageniformis** (Sollm.) Currey is *Robergea unica*, a Discomycete.]

— **Laurocerasi** Tul. in **114** (II, 195, 1863) [Leucostoma]; Phill. & Plowr. **14** (VIII, 107, 1880); Massee **14** (XV, 70); Plowr. Exs. III, No. 21. On *Prunus Laurocerasus* [type host]. See *V. ceuthospora* above. Nitschke (*Pyr. Germ.*) considered *V. Laurocerasi* to be *V. cincta*; see also *Flora Italica*.

— **leiphaemioides** Berk. & Curt. Listed by Massee **14** (XV, 71, 1887); **7**, 222. On *Quercus*. This is a North American species imperfectly known to Ellis & Everhart.

— **leucostoma** (Pers. ex Fr.) Fr. [Leucostoma]. Cooke **15**, 822; Massee **14** (XV, 70); **85** (XXI, 367); **112**, 201; Berk. **20**, 248, 1836 as *Sphaeria*; Berk. Exs. 31. On *Prunus* [type host], etc.

— **microstoma** (Pers. ex Fr.) Fr. [Monostichae]. Cooke **15**, 823; Massee **14** (XV, 71); Bucknall **46** (IV, 201); Berk. **19**, No. 20, 1837 as *Sphaeria*; Currey **45** (XXII, 277*). On *Prunus* [type host, recorded by Massee on *Alnus* probably in error].

— **Mulleriana** Cooke in **14** (XIV, 46, 1885); Sacc. *Addit.* I–IV, 27. On *Quercus*, Eastbourne.

— **nivea** (Pers. ex Fr.) Fr. [Leucostoma]. Tul. **114** (II, 181); Cooke **15**, 822; Massee **14** (XV, 70); Plowr. Exs. II, No. 27; Hooker **92**, 6, 1821 as *Sphaeria* (on *Quercus*); Berk. **20**, 248. On *Populus* [type host of Pers.]. See *Valsella polyspora*.

— **oxystoma** Rehm. Cooke **14** (XVI, 77, 1888); W. S. Jones **94** (IV, 221*). On *Alnus*, sometimes injurious.

Valsa pauperata Cooke & Ellis. Massee **14** (xv, 72, 1887). On *Cerasus*, Jedburgh. Doubtless wrongly identified; a North American species, type host *Acer rubrum*.
— **Pini** (Alb. & Schw. ex Fr.) Fr. [Monostichae]. Hawley **28** (viii, 228, 1923). On *Pinus* [type host], Sussex.
— **populina** Fuckel [Circinatae]. Massee **14** (xv, 72, 1887); **7**, 223. On *Populus* [type host *P. italica*], Yorks.
— **querna** (Currey) Berk. & Br. in **19**, No. 856, 1859; Cooke **15**, 828 as "*quernea*"; Massee **14** (xv, 71); Sacc. I, 122 (queried as a *Calosphaeria*); *Sphaeria* Currey in **45** (xxii, 279*, 1858). On *Quercus*.
— **rhodophila** Berk. & Br. in **19**, No. 855, 1859 [Circinatae]; Sacc. I, 136; Cooke **15**, 828; **14** (xv, 72); Bucknall **46** (iii, 268). On *Rosa*.
— **salicina** (Pers. ex Fr.) Fr. [Circinatae]. Tul. **114** (ii, 177); Cooke **15**, 827; **14** (xv, 72); Cooke Exs. 377; Plowr. Exs. I, No. 47; Berk. **20**, 250, 1836 as *Sphaeria*; *S. tetraspora* Currey p.p. in **45** (xxii, 279*); B. & Br. **19**, No. 859, 1859 as *V. tetraspora*. On *Salix* [type host]. See *V. ambiens*, *Diaporthe salicella* and *Cryptodiaporthe salicina*.
— **Schweinitzii** Nits. [Monostichae]. Massee **14** (xv, 71, 1887). On *Salix* [type host], Shere.
— **sordida** Nits. [Circinatae]. Grove **27** (1923, 4). On *Populus* [type host], locality not stated.
— **subseriata** Cooke in **14** (xiv, 47, 1885) [Circinatae]; Sacc. *Addit. I–IV*, 29; **14** (xv, 72). On *Fagus*, Shere.
— **Syringae** Nits. [Monostichae]. Massee **14** (xv, 71). On *Syringa* [type host], Scotland. Wehmeyer **28** (xvii, 257) found Cooke Exs. 492 to be *Diaporthe eres*.
Valsella clypeata Fuckel. Phill. & Plowr. **14** (x, 72, 1881) as *Valsa*. On *Rubus*, Scotland. Petrak **102** (1923, 227) regards each species of *Valsella* as a polysporous state of some species of *Valsa* section *Leucostoma*.
[— **polyspora** (Nits.) Sacc. Nitschke cited Currey's figures of "*Sphaeria nivea*" in **45** (xxii, 276*, 1858) as probably this species. Currey **45** (xxv, 247) stated that his figures were based on Scler. Suec. No. 76. Cooke proposed var. *polyspora* of *Valsa nivea* in **15**, 822.]
— **Salicis** Fuckel. Recorded **108** (1930, 111) as *Valsa*; **115**, 38. On *Salix*.

SPHAERIACEAE: HYALOSPORAE

[**Anthostomella pullulans** Bennett. See under Phaeosporae.]
Aporhytisma Urticae (Fr.) von Höhnel. Grove **1** (ii, 189) agrees with Petrak in placing this in the Pyrenomycetes. There are several British records as *Rhytisma*, including Cooke Exs. 392 and ii, No. 456.
Botryosphaeria Dothidea (Fr.) Ces. & de Not. Massee **5**, 174; Cooke **89**, 46* as *B.* "*diplodia*"; **15**, 808 as *Dothidea Rosae* Fr.; **56** (xv, pp. xix and xxix, 1893); Cooke Exs. 235 and ii, No. 234; Vize Exs. 279; Plowr. Exs. I, No. 29; Berk. **20**, 255, 1836 as *Sphaeria Dothidea*; Currey **45** (xxii, 283*); Berk. Exs. 32. On *Rosa* and *Rubus*.
— **melanops** (Tul.) Wint. B. & Br. **19**, No. 1179, 1886 as *Dothidea*; Cooke **15**, 807; Massee **14** (xv, 38) as *B. advena*. On *Fagus*, Jedburgh. See Shear **100** (1936, 476).—A few authors use the generic name *Melanops* where we use *Botryosphaeria*, and *Botryosphaeria* where we use *Gibberella*.
Ceratostomella ampullasca (Cooke) Sacc. in *Syll.* I, 409; Massee **14** (xvii, 73); **32** (xxxii, 180, spore discharge); Chesters **113** (1938, 177*); *Sphaeria* Cooke in **15**, 876*, 1871; *Ceratostoma* Bucknall in **46** (iii, 69, 1880); *Lentomita* Grove in **60** (1886, 76*); **27** (xxiv, 131). On *Quercus* and *Acer*. This is the best-known name of this genuine *Ceratostomella*. It was described earlier as *Sphaeria ligneola* (see under *Lentomita*). Other species often referred to *Ceratostomella* are listed under *Ophiostoma*.
— **cirrhosa** (Pers. ex Fr.) Sacc. Massee **14** (xvii, 73, 1889); Berk. **20**, 267, 1836 as *Sphaeria*; Currey **45** (xxii, 322*, 1859); Cooke **15**, 876; Cooke Exs. ii, No. 684; Plowr. Exs. iii, No. 54. On old wood.

Ceratostomella rostrata (Fr.) Sacc. Massee **14** (XVII, 73, 1889); **7**, 232. On old wood. See *Lentomita ligneola*.

— **vestita** Sacc. Cooke **14** (XIV, 40, 1885); Massee **14** (XVII, 73); Cooke **14** (XVII, 79); Grove **27** (XXIII, 131). On old wood.

— **vestita** var. **varvicensis** Grove in **27** (XXIII, 131, 1885). On wood, Sutton.

Cryptosporella aurea (Fuckel) Sacc. Cooke **15**, 826 as *Valsa*; Massee **14** (XV, 117); *V. amygdalina* Cooke in **27** (IV, 100*, 1866); Cooke Exs. 250. On *Carpinus*.

— **compta** (Tul.) Sacc. Recorded **28** (XIV, 190), Littlehampton Foray, 1928. On *Fagus*.

— **hypodermia** (Fr.) Sacc. Cooke **15**, 829, 1871 as *Valsa*; Massee **14** (XV, 117); Bucknall **46** (V, 51); **7**, 223; Plowr. Exs. III, No. 24; Berk. **20**, 251, 1836 and **19**, No. 21, 1837 as *Sphaeria*. On *Ulmus*. See also *Quaternaria dissepta*.

— **platanigera** (Berk. & Br.) Sacc. in *Syll.* I, 471; *Valsa* B. & Br. in **19**, No. 851*, 1859; Cooke **15**, 827; Massee **14** (XV, 117). On *Platanus*.

— **umbrina** (Jenkins) Jenkins & Wehmeyer in **99** (1935, 888); L. Ogilvie **28** (XVII, 153, 1932) as *Diaporthe*; **100** (XXIV, 485, 1932). On *Rosa*.

Diaporthopsis Angelicae (Berk.) Wehmeyer in **28** (XVII, 290, 1933) and Monog. p. 228; *Sphaeria* Berk. in **19**, No. 28, 1837; Berk. Exs. 88; *S. Berkeleyi* Desm. in Mont.; Cooke **15**, 883; Cooke Exs. 589; Massee **14** (XVI, 12) as *Diaporthe*. There are several other synonyms in continental literature. On Umbelliferae.

— **pantherina** (Berk.) Wehmeyer in **28** (XVII, 292, 1933) and Monog. p. 232; *Sphaeria* Berk. in **19**, No. 23, 1837; Currey **45** (XXII, 285); Cooke **15**, 895; Berk. Exs. 34; Plowr. Exs. III, No. 59; *Diaporthe* Cooke in **14** (VII, 82); **14** (XVI, 13). On *Pteridium*.

Ditopella ditopa (Fr.) Schroet. Rilstone **27** (1935, 102); B. & Br. **19**, No. 631*, 1852 as *Sphaeria*; Currey **45** (XXII, 325*, 1859); Plowr. **31** (June 17, 1899) and Exs. II, No. 70; Cooke **15**, 887 as form *polyspora*; Vize Exs. 181; Cooke Exs. 384 and II, No. 247; *Physalospora fusispora* Cooke in **14** (XVII, 88); Massee **14** (XVIII, 10); Tul. **114** (II, 145) as form of *Cryptospora suffusa*. On *Alnus*.

— **farcta** (Berk. & Br.) Sacc. in *Syll.* I, 450; *Sphaeria* B. & Br. in **19**, No. 631*, 1852; Cooke **15**, 886; Plowr. Exs. II, No. 68; *Physalospora* Cooke in **14** (XVII, 88); Massee **14** (XVIII, 11). On *Ulmus*. Niessl transferred this to *Diaporthe*. Wehmeyer (Monog. p. 252) found a specimen in Plowright's Exs. to be mostly an effuse *Anthostoma*.

— **Vizeana** Sacc. & Speg.; *Syll.* I, 451; *Physalospora* Cooke in **14** (XVII, 88); Massee **14** (XVIII, 11); *Nectria caulina* Cooke in **14** (V, 62, 1876); Cooke Exs. II, No. 479; Vize Exs. 271; Plowr. Exs. III, No. 14. On *Buxus*.

Endothia radicalis (Schwein.) Ces. & de Not.; *E. fluens* Shear & N. E. Stevens in *U.S. Dept. Agric. Bull.* 380, 16, 1917. The first and apparently the only specimen collected in Britain was from the New Forest, and was described as *Sphaeria fluens* Sowerby in **42**, t. 438, 1815. Shear and Stevens found this specimen to be on *Castanea sativa*, but pycnidial only, hence the name "*fluens*" does not take priority in *Endothia*. Berkeley (**20**, 254, 1836) decided that Sowerby's fungus agreed with a specimen from Schweinitz of *Sphaeria gyrosa* Schw. Tulasne **114** (II, 87, 1863) records *Melogramma gyrosum* (Schw.) Tul. on *Carpinus* in France, and Cooke **15**, 802, 1871 used this name. Berkeley **18**, 384, 1860 and Massee **14** (XV, 38) used the name *Endothia gyrosa* (Schw.) Fuckel; but Shear and Stevens considered that *E. gyrosa* has not been found in Europe.

Glomerella cingulata (Stonem.) Spauld. & von Schrenk. Often recorded on *Pyrus Malus* or *Vitis*, usually in the conidial stage *Gloeosporium fructigenum* Berk. For literature see Wormald **31** (1930, 498*); **93**, 129; Grove **1**, 221.

— **phacidiomorpha** (Ces.) Petrak. Kinghorn **34** (XXIII, 30*, 1936); Grove **27** (1932, 3) and Rilston **27** (1935, 101) as *Physalospora Phormii* Schroet. On *Phormium*, Cornwall and Devon.

Gnomoniella Avellanae (Schmidt ex Fr.) Sacc. Berk. **19**, No. 101, 1838 as *Sphaeria*; Cooke **15**, 910; Berk. Exs. 182; Cooke Exs. 498; *Gnomonia* Cooke in **14** (XVII, 51); Massee **14** (XVII, 74). On dead leaves of *Corylus*.

Gnomoniella Coryli (Batsch ex Fr.) Sacc. Cooke **89**, 140, 1906; Cooke **14** (xvii, 51) as *Gnomonia*; Massee **14** (xvii, 74); Cooke Exs. 495 and ii, No. 278; Greville **39**, t. 330, 1828 as *Sphaeria*; Berk. **20**, 257, 1836; Cooke **15**, 910. On leaves of *Corylus*.

— **devexa** (Desm.) Sacc. Phill. & Plowr. **14** (vi, 27, 1877) as *Plagiostoma*; **14** (vii, 87) as *Sphaeria*; Plowr. Exs. iii, No. 85; Massee **14** (xvii, 74) as *Gnomonia*. On *Polygonum*, King's Lynn.

— **fimbriata** (Pers. ex Fr.) Sacc. Cooke **89**, 213*, 1906; Berk. **20**, 257, 1836 as *Sphaeria*; Cooke **15**, 909; **14** (viii, 68); Berk. Exs. 36; Cooke Exs. 163 and ii, No. 277; Plowr. Exs. ii, No. 85; Vize Exs. 98; Massee **14** (xvii, 74) as *Gnomonia*. On *Carpinus*. This species and *G. Coryli* are often placed in *Mamiania*.

— **lugubris** (Karst.) Sacc. A. Lorrain Smith & Ramsbottom **28** (iv, 171, 1915) as *Gnomonia*. On *Potentilla*, Scotland.

— **Rosae** (Fuckel) Sacc. A. Lorrain Smith **28** (vi, 149, 1919) as *Gnomonia*. On *Rosa*, Scotland. See also Grove **1** (i, 171).

— **tubiformis** (Tode ex Fr.) Sacc. Hooker **92**, 7, 1821 as *Sphaeria* (on *Corylus*); Berk. **20**, 277; Greville **39**, t. 335, 1828; Currey **45** (xxii, 332*, 1859); Cooke **15**, 910; Plowr. Exs. ii, No. 86; Massee **14** (xvii, 74) as *Gnomonia*; **7**, 232. On *Alnus*, etc.

— **vulgaris** (Ces. & de Not.) Sacc. Massee **14** (xvii, 74); Sowerby **42**, t. 373, 1802 as *Sphaeria gnomon* Tode; Purton **55** (iii, No. 1521, 1820); Berk. **20**, 277; Greville **39**, t. 335, 1828; Cooke **15**, 911; Berk. Exs. 38; Cooke Exs. 598 and ii, No. 279; Vize Exs. 189; Plowr. Exs. i, No. 93; Greville **51**, 360, 1824 as *Cryptosphaeria gnomon*. On *Corylus*.

Guignardia acerifera (Cooke) Lindau in Engler-Prantl, 1897; *Laestadia* Sacc. in *Syll.* i, 423; Massee **14** (xix, 13); *Sphaerella* Cooke in **27** (iv, 248*, 1866); **15**, 916, "referred doubtfully by Auerswald to *Sphaerella sparsa*"; Cooke Exs. 687 and ii, No. 271. On leaves of *Acer campestris*. See also *Laestadia* for other species of *Guignardia*.

— **Bidwellii** (Ellis) Viala & Ravaz. Massee **5**B, 105; Cooke **89**, 158*; Massee **31** (1895, 101*) as *Laestadia*, "undoubted evidence of its occurrence in Britain". On *Vitis*. See *Elsinoe ampelina*.

— **caricicola** (Fuckel) Lind (Feb. 1913); transferred also by Migula in 1913. Massee **14** (xix, 43, 1890) as *Laestadia*. On *Carex*, N. Wootton.

— **carpinea** (Fr.) Schroet. Massee **14** (xix, 13) as *Laestadia*; B. & Br. **19**, No. 655, 1852 as *Sphaeria*; Cooke **27** (iv, 248*, 1866) as *Sphaerella*; **15**, 916; Bucknall **46** (iii, 20); Cooke Exs. 165 and ii, No. 272; Plowr. Exs. ii, No. 89; Vize Exs. 196. On *Carpinus*. Potebnia **102** (viii, 54) made this the type of his genus *Sphaerognomonia*.

— **Cookeana** (Auersw.) Feltgen. O'Connor **70** (xxi, 397); Sacc. i, 421 as *Laestadia*; Massee **14** (xix, 12); "*Sphaerella punctiformis*" in **15**, 914, 1871; *S. Cookeana* Auersw. in *Myc. Eur. Pyr.* 1869. On leaves.

— **echinophila** (Schwein.) Trav. Massee **37** (Add. Ser. v, 150, 1906) as *Laestadia*. On involucres of *Castanea*, Kew.

— **maculiformis** (Bonord.) Migula. Grove **27** (lxviii, 70*, 1930). On *Fagus*, Worcs.

— **perpusilla** (Desm.) Trav. Massee **14** (xix, 13) as *Laestadia*; Cooke **14** (v, 122, 1877) as *Sphaerella*; **14** (vii, 88); Cooke Exs. ii, No. 572. On grasses.

— **pinastri** (DC. ex Fr.) Lindau. Greville **39**, t. 13, 1823 as *Sphaeria*; Berk. **20**, 270; Currey **45** (xxii, 324*); Cooke **27** (iv, 248*, 1866) as *Sphaerella*; **15**, 916. On needles of *Pinus*.

— **punctoidea** (Cooke) Schroet. *Sphaerella* Cooke in **27** (iv, 247*, 1866); **15**, 915; *Laestadia* Auersw. in **105** (1869, 178); Sacc. i, 420; Massee **14** (xix, 12). On *Quercus*.

— **rhytismoides** (Babington ex Berk.) Trav. *Sphaeria* Bab. [nom. nud. in **36** (Proc. 1838–48, 32)] ex Berk. in **19**, No. 178*, 1841; Currey **45** (xxii, 286*); Berk. Exs. 324; Cooke **15**, 931 as *Isothea*; *Laestadia* Sacc. in *Syll.* i, 424; Massee **14** (xix, 13); **70** (xxi, 398). On *Dryas*.

Laestadia faginea (Cooke & Plowr.) Sacc. in *Syll.* II, XXXI; Massee **14** (XIX, 13); *Sphaerella* Cooke & Plowr. in Plowr. Exs. III, No. 100; Cooke **27** (XXI, 68, 1883). On *Fagus*, King's Lynn. *Laestadia* is untenable as a generic name for fungi, but these four species have apparently not been transferred to *Guignardia*.

— **Iridis** (Cooke) Berl. & Vogl. in Sacc. *Addit. I–IV*, 61; Massee **14** (XIX, 13); *Sphaerella* Cooke in **14** (XIII, 99, 1885). On *Iris*, Kew.

— **Periclymeni** Pass. O'Connor **70** (XXI, 398, 1936). On *Lonicera*, Ireland.

— **rhodorae** (Cooke) Berl. & Vogl. in Sacc. *Addit. I–IV*, 62; Massee **14** (XIX, 13); *Sphaerella* Cooke in **14** (XIII, 99, 1885, "can scarcely be *Laestadia Rhododendri* Not."); Vize Exs. 599. On leaves of *Rhododendron*, Kew. Von Höhnel (*Mittel. Bot. Inst. Tech. Hochsch. Wien*, VIII, 35) transferred it to *Discochora*.

[**Lasiosphaeria**: see Phragmosporae.]

Ophiostoma coeruleum (Münch) Syd. M. Wilson **64** (XXXVI, 82, 1922) as *Ceratostomella*; **76** (XI, 42). On wood. *Ophiostoma* perhaps should be excluded from the Sphaeriales (see refs. in Chesters **113** (1938, 179)). See *Ceratostomella* above.

— **Piceae** (Münch) Syd. MacCallum **28** (VII, 231, 1922) as *Ceratostomella*, said to be common; M. Wilson **64** (XXXVI, 85, 1922). On *Picea* and *Pinus*.

— **piliferum** (Fr.) Syd. Berk. **20**, 266, 1836 as *Sphaeria*; Cooke **15**, 876; Massee **14** (XVII, 74) as *Ceratostoma*; A. Lorrain Smith & Ramsbottom **28** (VI, 366) as *Sphaeronema*; M. Wilson **64** (XXXVI, 82) as *Ceratostomella*, considered an early name for various blue-stain fungi. H. & P. Sydow **102** (1919, 43) designated this species as the type of the genus *Ophiostoma*. On *Pinus*.

— **Pini** (Münch) Syd. MacCallum **28** (VII, 231, 1922) as *Ceratostomella*; M. Wilson **28** (XIII, 84); **64** (XXXVI, 85); **71** (XL, 49); **112**, 177. On *Pinus*.

— **pluriannulatum** (Hedgc.) Syd. Mary Gregor **102** (XXI, 1*, 1932) as *Ceratostomella*. On *Ulmus*.

— **Ulmi** (Buisman) Nannf. Walter **99**, 551 as *Ceratostomella*; Ainsworth **93**, 226, with references. The first record of elm disease caused by this fungus in Britain is Wilson **31** (LXXXIII, 31*, 1928) as *Graphium Ulmi*.

Phomatospora argentina Speg. Rea & Hawley **71** (XXXI, Part 13, p. 7*, 1912). On *Beta maritima*, Clare Island.

— **Berkeleyi** Sacc. gen.nov. in *Fungi Ven.* Ser. II, 306, 1875; *Syll.* I, 432; Massee **14** (XVIII, 40); *Sphaeria phomatospora* B. & Br. in **19**, No. 647*, 1852; Currey **45** (XXII, 325); Cooke **15**, 884. On stalks of *Solanum tuberosum*.

— **endopteris** (Plowr.) Phill. & Plowr. in **14** (XIII, 76, 1885); Sacc. *Addit. I–IV*, 63; **14** (XVIII, 40); *Sphaeria* Plowr. apud Bucknall in **46** (III, 269, 1882). On *Pteridium*, Bristol.

— **ribesia** (Cooke & Massee) Sacc. in *Syll.* IX, 591; *Sphaeria* Cooke & Massee in **14** (XV, 110, 1887). On twigs of *Ribes*, Battle Abbey. Petrak & Sydow **102** (XXII, 370) found nothing corresponding to the diagnosis on the type specimen.

— **Sphaerulina** Grove in **27** (LX, 172, 1922). On *Asclepias*, Birmingham.

— **therophila** (Desm.) Sacc. Grove **27** (LXVIII, 68, 1930). On *Juncus*, Wales.

Physalospora Corni Sacc. Massee **14** (XVIII, 10, 1889); *Sphaeria corniella* Cooke in **14** (VIII, 10, 1879). On *Cornus*, Shrewsbury.

— **Euphorbiae** (Phill. & Plowr.) Sacc. in *Syll.* I, 436; *Phomatospora* Cooke in **14** (XVIII, 13 and 40); *Sphaerella* Phill. & Plowr. in **14** (VI, 28, 1877); **14** (VII, 88); Plowr. Exs. III, No. 97. On *Euphorbia*.

— **Festucae** (Lib.) Sacc. Grove **27** (LXVIII, 68*, 1900). On *Aira* and *Brachypodium*, Worcs.

— **gregaria** Sacc. var. **foliorum** Sacc. Callen **28** (XXII, 100*, 1938). On *Taxus*, Scotland.

— **Ilicis** (Schleich.) Sacc. Massee **14** (XIX, 13, 1890) as *Laestadia*. On *Ilex*, Apethorpe.

— **Lonicerae** Grove in **27** (LXVIII, 67, 1930). On *Lonicera*, Worcs.

— **Miyabeana** Fukushi. Nattrass **28** (XIII, 294*, 1928); **23** (XXXVI, 363, 1929); **104** (VII, 239, 1929); **32** (XXXIV, 64); **79** (VIII, 25; XI, 59); **28** (XVI, 76); **85** (XLI, 18); **93**, 224; **112**, 183*; **71** (XLII, 50, 1934, *Gloeosporium* stage); for years this fungus in Britain was called *P. gregaria* Sacc., following Johnson **70** (X,

153*, 1904); **25** (1904, 543); **23** (xxi, 290); **64** (xxxviii, 130); **23** (xxiv, 845 and xxix, 1056) as *Botryosphaeria gregaria*; **5**, 175. On *Salix*.

Physalospora mutila N. E. Stevens in **100** (xxviii, 333, 1936). Type on *Fraxinus excelsior*, Cornwall; also on *Pyrus Malus*. The pycnidial stage is *Diplodia mutila* Fr. (=*Sphaeropsis Malorum* (Berk.) Berk.).

— **obtusa** (Schwein.) Cooke in **14** (xx, 86); N. E. Stevens **100** (xxviii, 330, 1936; **93**, 129; **112**, 184) as *P. Cydoniae*. On *Pyrus Malus* and *Crataegus* in England. The pycnidial stage is *Sphaeropsis Malorum* Peck.

— **psoromoides** (Borr.) Wint. Wint. **105** (1886, 23); A. Lorrain Smith **28** (iii, 177); Massee **14** (xviii, 40). On lichens. Keissler **119**, 346 transfers to *Guignardia* and gives extensive synonymy.

— **rosicola** (Fuckel) Sacc. Massee **14** (xviii, 10); Grove **27** (lxviii, 63, 1930); Cooke **14** (xiii, 99, 1885) as *Sphaeria*. On *Rosa*, Kew and Worcs. Cooke's specimen is *Didymella* (*Apiospora*) *sepincoliformis* (q.v.).

— **Thistletonia** Cooke in **14** (xviii, 74, 1890); Sacc. ix, 597. On *Rhododendron*.

Trichosphaeria barbula (Berk. & Br.) Wint. in Rabenhorst's *Krypt. Fl.* ii, 206; **108** (1930, 109); *Sphaeria* B. & Br. in **19**, No. 870*, 1859; *Venturia* Cooke in **15**, 924; Sacc. i, 591; Massee **14** (xvi, 38). On bark of *Pinus*. This may be an *Eriosphaeria*, for the spores were described as 2-celled.

— **caesia** (Carmichael ex Currey) Sacc. in *Syll.* i, 453; *Sphaeria* Carm. ex Currey in **45** (xxii, 316*, 1859); Cooke **15**, 857; *Lasiosphaeria* Cooke in **14** (xv, 124); Massee **14** (xvi, 36). On rotted wood, Appin.

— **crassipila** Grove in **27** (l, 48, 1912). On wood, Studley Castle.

— **myriocarpa** (Fr.) Petrak & Syd. in **102** (xxii, 331); Greville **39**, t. 152, 1825 as *Sphaeria* (accepted by Fries in *Elenchus* ii, 94); Berk. **20**, 266; Cooke **15**, 868; Cooke Exs. 373; Plowr. Exs. i, No. 76; *Psilosphaeria* Stevenson in **13**, 387; *Rosellinia* Cooke in **14** (xvi, 52); Massee **14** (xvi, 118); **7**, 229; *Sphaeria ostioloidea* Cooke in **14** (iv, 113, 1876); Bucknall **46** (ii, 217); *Psilosphaeria ostioloidea* Cooke in **14** (vii, 84); **14** (xvi, 117); *Zignoella ostioloidea* (Cooke) Sacc. in *Syll.* ii, 220; Crossland **7A**, 276 as *Wallrothiella minima*; Grove **27** (l, 48); *Psilosphaeria minima* (Fuckel) Cooke in **14** (xvi, 50); **7**, 228. On wood and old fungi. See *Melanomma Stevensonii*.

— **pilosa** (Pers. ex Fr.) Fuckel. Berk. **20**, 262, 1836 as *Sphaeria*; Currey **45** (xxii, 316*, 1859); B. & Br. **19**, No. 1096, 1865; Cooke **15**, 860; *Lasiosphaeria* Cooke in **14** (xv, 124); Massee **14** (xvi, 36). On coniferous wood.

— **superficialis** (Currey) Sacc. in *Syll.* i, 452; Boyd **28** (iv, 69); *Sphaeria* Currey in **45** (xxii, 317*, 1859); Cooke **15**, 858; *Lasiosphaeria* Cooke in **14** (xv, 124); Massee **14** (xvi, 36). On wood of *Pinus*.

Tympanopsis euomphala (Berk. & Curt.) Starb. On *Fraxinus*, associated with *Hypoxylon rubiginosum*. First known British collection Mickleham, Surrey, in 1930. See Chesters **28** (xxiii, 235) and Fitzpatrick **100** (xv, 54).

SPHAERIACEAE: PHAEOSPORAE

The Phaeosporous Sphaeriaceae include such diverse groups as the Chaetomiaceae and the Xylariaceae, placed at the beginning and the end of Winter's classification of Sphaeriaceae. The coprophilous genera cited here as *Coprolepa*, *Hypocopra*, *Philocopra* and *Sordaria*, as Saccardo grouped them, have been variously transferred subsequently, e.g. by Traverso in *Flora Italica*, by Cain (*Univ. Toronto Studies*, Biol. Ser. 38, 1934), and in the U.S.A. by Griffiths (*Mem. Torrey Bot. Club*, xi, No. 1, 1901). Chivers's monograph of *Chaetomium* and *Ascotricha* (*Mem. Torrey Bot. Club*, xiv, 155–240, 12 pls. 1915) has been consulted for those two genera. J. H. Miller has reclassified most of the British species of the Xylariaceae.

Anthostoma amoenum (Nits.) Sacc. Hawley **28** (viii, 228, 1923). On *Quercus*, Cumberland.

— **cubiculare** (Fr.) Nits. Phill. & Plowr. **14** (vi, 25, 1877). On wood, Norfolk.

Anthostoma decipiens (DC. ex Fr.) Nits. Berk. **20**, 246, 1836 as *Sphaeria*; Currey **45** (xxii, 284*, 1858); Cooke **15**, 800; Rabenh. *Fungi Eur.* ii, No. 144, 1860, coll. Broome; *Eutypa* Tul. in **114** (ii, 59); *Botryosphaeria* Cooke in **14** (xiii, 108). On *Carpinus*.

— **denigrans** (Currey) Sacc. in *Syll.* i, 308; *Sphaeria* Currey in **45** (xxii, 270*, 1858); *Diatrype* B. & Br. in **19**, No. 835, 1859; Cooke **15**, 816; **14** (xv, 69). On dead branches.

— **dryophilum** (Currey) Sacc. in *Syll.* i, 308; **37** (1936, 65): *Sphaeria* Currey in **45** (xxii, 269*, 1858); *Diatrype* B. & Br. in **19**, No. 832, 1859; Cooke **15**, 816; **7**, 222; **14** (xv, 69). On *Quercus*. Tulasne **114** (ii, 89, 1863) placed this with *A. gastrinum*.

— **gastrinoides** (Phill. & Plowr.) Sacc. in *Syll.* i, 763; *Valsa* Phill. & Plowr. in **14** (x, 71, 1881); Bucknall **46** (iii, 268*, 1882). On *Viburnum*, Bristol.

— **gastrinum** (Fr.) Sacc. Berk. **18**, 386, 1860, as *Hypoxylon*; *Melogramma* Tul. in **114** (ii, 88, 1863); Cooke **15**, 803; Plowr. Exs. i, No. 24; *Fuckelia* Cooke in **14** (xiii, 108); **14** (xv, 38); ?*Sphaeria irregularis* Sowerby in **42**, t. 374, 1802; B. & Br. **19**, No. 598, 1851; Currey **45** (xxii, 273*). On *Ulmus*.

— **italicum** Sacc. & Speg. Bucknall **46** (v, 52); **14** (xiii, 76); Bucknall **46** (iv, 60*, 1883) as *Sphaeria*. On *Eupatorium*, Bristol.

— **melanotes** (Berk. & Br.) Sacc, in *Mich.* i, 326; *Syll.* i, 294; *Sphaeria* B. & Br. in **19**, No. 623*, 1852; Cooke **15**, 878; Cooke Exs. 588 and ii, No. 492; Plowr. Exs. i, No. 79 (altered in Cent. iii to *A. Schmidtii* Nits., a synonym); *Xylosphaeria* Stevenson in **13**, 398, 1879; Massee **14** (xviii, 8); Bucknall **46** (iii, 69). On wood, especially *Ulmus*.

— **Plowrightii** (Niessl) Sacc. in *Syll.* i, 305; O'Connor **70** (xxi, 379); *Fuckelia* Niessl in **105** (1875, 130; Type collection Plowr. Exs. ii, No. 18 issued as *Dothidea tetraspora* B. & Br.); Cooke Exs. 490; **14** (vi, 25; vii, 79; xv, 38); Bucknall **46** (v, 132, 1887) as *Sphaeria Plowrightii* [n.comb.?]. On *Ulex*.

— **saprophilum** Ellis & Everh. Rea and Hawley **71** (xxxi, Part 13, p. 16, 1912). On *Acer*, Clare Island.

— **turgidum** (Pers. ex Fr.) Nits. **37** (1936, 65); Berk. **20**, 250, 1836 as *Sphaeria*; Currey **45** (xxii, 278*); Cooke **15**, 836 as *Valsa*; **7** A, 277; *Diatrype* Cooke in **14** (xiv, 16); Massee **14** (xv, 69); **7**, 223 as *Valsa pustulata*. Common on *Fagus*.

— **xylostei** (Pers. ex Fr.) Sacc. Berk. **20**, 270, 1836 as *Sphaeria*; Currey **45** (xxii, 324*, 1859); Cooke **15**, 881; **13**, 399; Plowr. Exs. ii, No. 63; *Xylosphaeria* Cooke in **14** (xvii, 86); Massee **14** (xviii, 8). On *Lonicera*.

Anthostomella Ammophilae [as "*ammophila*"] (Phill. & Plowr.) Sacc. in *Syll.* i, 763; Grove **27** (1922, 168); Rilstone **27** (1935, 102); *Sphaeria* Phill. & Plowr. in **14** (x, 73*, 1881). On *Ammophila*. Von Höhnel (*Frag. Myk.* No. 1205, 1920) has transferred this and other names to *Entosordaria*.

— **appendiculosa** (Berk. & Br.) Sacc. in *Mich.* ii, 234 and *Syll.* i, 286; *Sphaeria* B. & Br. in **19**, No. 613*, 1851; Currey **45** (xxii, 326*, 1859); Cooke **15**, 892; Bucknall **46** (iii, 69); **14** (xviii, 11) as *Anthostoma*. On *Rubus*. See R. Maire, *Bull. Soc. Hist. Nat. Afr. Nord.* viii, 166.

— **clypeata** (de Not.) Sacc. J. W. Ellis, *Fungus Flora Wirral*, p. 62; Massee **14** (xviii, 11) as *Anthostoma*. On *Rubus*. See Rhodes **108** (1933, 53).

— **lugubris** (Rob. in Desm.) Sacc. Grove **27** (lxviii, 67*, 1930); Rilstone **27** 1935, 102). On *Ammophila*.

— **Myricae** Grove in **27** (lxxi, 252*, 1933). On *Myrica*, Wales.

— **phaeosticta** (Berk.) Sacc. in *Mich.* i, 374 and *Syll.* i, 279; Massee **14** (xviii, 57, (1890); B. & Br. **19**, No. 651*, 1852 as *Sphaeria*; Currey **45** (xxii, 330*, 1859); Cooke **15**, 899; Bucknall **46** (iv, 60); *Leptosphaeria* Auersw. in *Myc. Eur.* t. 11. On *Carex*.

— **pullulans** Bennett in **34** (xv, 371*, 1928) as the perfect stage of *Dematium pullulans* de Bary; **93**, 23. On straw of *Triticum*. This species belongs to the Hyalosporae.

Anthostomella punctulata (Rob. & Desm.) Sacc. Grove **27** (LXVIII, 66*, 1930). On *Luzula*, Ribblesford Wood.

— **Taxi** Grove in **27** (LXXI, 253*, 1933); Rhodes **108** (1933, 48); discussed by Callen **28** (XXII, 102*, 1938). On *Taxus*, Worcs. and Scotland.

— **tomicoides** Sacc. A Lorrain Smith and Ramsbottom **28** (V, 239, 1916); Rilstone **27** (1935, 102). On *Eupatorium* and *Rubus*.

— **tomicum** (Lév.) Sacc. Massee **14** (XVIII, 57, 1890); Currey **45** (XXII, 324*, 1859) as *Sphaeria*; Cooke **15**, 894; var. *minor* in B. & Br. **19**, No. 633*, 1852. On *Aira* and *Juncus*.

Ascotricha chartarum Berk. gen.nov. in **19**, No. 116, 1838; Sacc. I, 37; Cooke **52**, 221*, 1865; **15**, 654*; Vize Exs. 348, 355, 474; Chivers Monog. p. 222; *Chaetomium Berkeleyi* Schroet. in *Krypt. Fl. Schles.* 3, 284, 1894. On paper.

Bombardia fasciculata Fr. *Rosellinia* Cooke in **14** (XVI, 52); Massee **14** (XVI, 118); Berk. **20**, 264, 1836 as *Sphaeria bombarda* Batsch; Currey **45** (XXII, 317*, 1859); Cooke **15**, 860; Berk. Exs. 268; Vize Exs. 500; Plowr. Exs. III, No. 48; *Sphaeria reptans* Sowerby in **42**, t. 395, 1803. On wood. Chenantais **117** (XXXV, 78, 1919) transferred it as *Lasiosordaria Bombardia*.

[**Bovilla Capronii** Sacc. gen.nov. in *Syll.* II, 360; *Sphaeria bovilla* Cooke in **15**, 874*, 1871; *Sordaria bovilla* Cooke in **14** (XVI, 55); Massee **14** (XVI, 119). On dung, Shere. Massee and Salmon **33** (XV, 343, 1901) and Grove **27** (1930, 66) point out that the fungus was immature *Sordaria coprophila*, q.v.].

Camarops polyspermum (Mont.) J. H. Miller in **28** (XV, 151*, 1930); Shear **100** (XXX, 585). On *Alnus*, E. W. Mason Herb. No. 105.

Ceratostoma Masoni Kirschst. in **28** (XVIII, 306*, 1934). On *Quercus*, E. W. Mason Herb. No. 882, Richmond Park, Surrey.—The present use of *Ceratostoma* appears invalid, unless conserved. See Mason, *Annotated Account*, List II, Fasc. 2, 1933.

— **Notarisii** Sacc. Massee **37** (1912, 165*). On damp paper and cotton, Kew.

Chaetomium arachnoides Massee & Salm. in **33** (XVI, 71*, 1902). Described on dung from Gold Coast, Africa, but Massee **37** (1912, 163) records it on damp paper, Kew. Chivers (p. 217) examined specimens sent from Kew Herb. and decided that they did not belong to *Chaetomium*.

— **atrum** Link. Massee **14** (XVI, 39, 1887). On *Heracleum*. A doubtful record. Chivers, p. 180, makes *C. atrum* a synonym of *C. elatum*.

— **bostrychodes** Zopf. Massee & Salmon **33** (XVI, 72*, 1902); **73** (2, VIII, 355); **33** (XLVII, 735, saltation); **37** (1912, 162*); **70** (XIX, 545); Chivers, p. 201. On dung, etc.

— **caprinum** Bainier. Dickson **33** (XLVII, 735, 1933, presumably a British record); Chivers p. 203.

— **chartarum** Ehrenb. ex Fr. Berk. **20**, 328, 1836; Cooke **52**, 221*, 1865; **15**, 653*; **7**, 228; Vize Exs. 475; Cooke Exs. 328. On paper. Chivers, p. 190, considers *C. chartarum* a synonym of *C. globosum*.

— **chlorinum** (Sacc.) Grove in **27** (L, 46, 1912, for *C. Fieberi* var. *chlorinum* Sacc. which Chivers, p. 190, regards as a synonym of *C. globosum*); **108** (1930, 109). On *Helianthus*, etc.

— **chlorinum** var. **rufipilum** Grove in **27** (L, 46, 1912); *C. Fieberi* var. *rufipilum* (Grove) Sacc. in *Syll.* XXIV, 839; **33** (XLVII, 735, 1933). On stems, etc.

— **cochliodes** Palliser. Dickson **33** (XLIV, 389, 1932; XLVII, 735; L, 334 and 702); Chivers, p. 204. On old stems.

— **crispatum** Fuckel. A. Lorrain Smith & Rea **28** (II, 36, 1903); **37** (1912, 163*); **34** (XVII, 293); Chivers, p. 171. On bulbs, paper, and in soil.

— **elatum** Kunze & Schmidt ex Fr. Greville **39**, t. 230, 1826; Berk. **20**, 328, 1836; Cooke **52**, t. XII, 1865; **15**, 652; **28** (I, 185); **33** (XV, 334; XLVII, 735); **68** (1901, 614); Tul. **114** (II, 267); Chivers p. 180; Berk. Exs. 49; Cooke Exs. 100 and II, No. 290; Vize *Fungi Brit.* No. 100; *Sphaeria scopula* Sowerby in **42**, t. 386, 1803; B. & Br. **19**, No. 636*, 1852 as *S. comata* Tode; **14** (XVI, 39) as *Chaetomium comatum*; **37** (1912, 164*). On straw, seeds, etc.

Chaetomium funicola Cooke in **14** (I, 176, 1873); Sacc. I, 226; **14** (XVI, 39); Chivers, p. 176. On twine, British Museum.

— **glabrum** Berk. & Br. in **19**, No. 1397*, 1873; nom. nud. in **18**, 405, 1860 and Cooke **15**, 653. Sacc. I, 35 and Chivers, p. 214 placed it with *Anixia perichaenioides*, q.v. On damp straw.

— **globosum** Kunze ex Fr. Dickson **33** (XLVII, 736*, 1933, saltation); see *C. chartarum*. On old paper, etc. Following Chivers, *C. globosum* is the valid name for the commonest British *Chaetomium*.

— **griseum** Cooke in **14** (I, 175, 1873); Sacc. I, 226; Massee **14** (XVI, 39); **37** (1912, 165). On old sacking, etc. Chivers, p. 167, examined the type specimen and found it to be *C. murorum*.

— **indicum** Corda. Cooke **15**, 657, 1871 and Exs. 216; Massee **14** (XVI, 39) and **37** (1912, 165). Both Cooke and Massee say that the fungus appeared on paper from India and that it is not known from Britain, but Chivers, p. 178, treats it as having a distribution including Europe.

— **Kunzeanum** Zopf. A. Lorrain Smith **68** (1901, 614); **28** (I, 183); **37** (1912, 164*). On farm seeds and damp paper. Teste Chivers, p. 190, a synonym of *C. globosum*.

— **lageniforme** Corda. Massee **37** (1907, 240*). On a twig, Kew. Teste Chivers, p. 181, a synonym of *C. elatum*.

— **murorum** Corda. Cooke **52** (Ed. II, 226); **15**, 653, 1871; Massee **14** (XVI, 39); **33** (XV, 334; XVI, 71); **37** (1912, 163); **74** (VII, 59); **33** (XLVII, 735*); Chivers p. 166. On plaster, cloth, etc. See *Bolacotricha grisea* above.

— **pannosum** Wallr. Massee **37** (1912, 165); **28** (VI, 47, 1918); **32** (XXXIII, 372). On old plants. Chivers, p. 181, considers the name a synonym of *C. elatum*.

— **rufulum** Berk. & Br. in **19**, No. 1397*, 1873; Sacc. I, 228; Cooke **14** (II, 165*). On paper. Chivers, p. 214, considers that the description and figures indicate that this is not a *Chaetomium*.

— **simile** Massee & Salm. in **33** (XVI, 71*, 1902); Sacc. XVII, 601; **37** (1912, 164); Chivers p. 169. On dung, Kew.

— **spirale** Zopf. Bayliss Elliott **34** (XVII, 290, 1930); Chivers p. 199. From soil of a salt marsh.

Coprolepa equorum Fuckel. Phill. & Plowr. **14** (IV, 124*, 1876) as *Sphaeria*; Cooke Exs. II, Nos. 241, 242; Plowr. Exs. II, No. 57; **14** (VII, 85 and XVI, 120) as *Sordaria*; **40** (VII, 115). On dung.

— **fimeti** (Pers. ex Fr.) Sacc. Berk. **20**, 246, 1836 as *Sphaeria*; Cooke **15**, 847 as *Massaria*; Massee **14** (XVI, 120) as *Sordaria*. On dung, Appin.

— **merdaria** (Fr.) Fuckel. Phill. & Plowr. **14** (IV, 123, 1876) as *Sphaeria*; Plowr. Exs. II, No. 56; **14** (VII, 85) as *Sordaria*; **13**, 393; **14** (XVI, 120); Bucknall **46** (III, 138); Plowr. Exs. III, No. 44. On dung.

Daldinia concentrica (Bolton ex Fr.) Ces. & de Not. gen.nov. in *Schema* I, 197; Sacc. I, 393; Massee **14** (XV, 34, 1886); **34** (XVI, 400); Brooks **28** (IV, 245, cultures); Bayliss Elliott **28** (VI, 269*); **89**, 211; Miller **28** (XV, 152*, 1930); *Sphaeria* Bolton in **111**, t. 180, 1791; **92**, 4, 1821; **20**, 236; *Hypoxylon* Greville in **39**, t. 324, 1828; Berk. **18**, 386; **31** (1861, 72*); **45** (XXV, t. 45); **15**, 794; Tul. **114** (II, 31); Plowr. Exs. I, No. 17; *Stromatosphaeria* Greville in **51**, 355, 1824; *Sphaeria fraxinea* Withering in **38**, 2nd Ed.; Sowerby **42**, t. 160, 1798; *Fungus fraxineus* [etc.] Ray, 1686. Common on deciduous trees. See Marion Child **101** (XIX) for *Daldinia*.

[— **vernicosa** (Schwein.) Ces. & de Not. Recorded **28** (XIII, 310) on *Betula*, 1927 Foray at Aviemore. The specimens were considered by Miller to be *D. concentrica*.]

Endoxyla operculata (Alb. & Schw. ex Fr.) Fuckel. Massee **14** (XVIII, 8, 1889). On *Pinus*, Scotland. Von Höhnel (**102**, XVI, 135) placed *Endoxyla* in the Phaeosporae (he considered it a section of *Anthostoma*); it has often been included in the Allantosporae.

— **parallela** (Fr.) Fuckel. Massee **14** (XVIII, 8, 1889); Cooke **14** (I, 174, 1873) as *Sphaeria*; *Xylosphaeria* Cooke in **14** (VII, 86); **13**, 399. On *Pinus*, Scotland.

Gelasinospora tetrasperma Dowding. Eleanor S. Dowding (*Canadian J. Res.* IX, 295, 1933) found "*Sordaria fimicola*, four-spored form" **28** (XVII, 296*, 1933) to be her *G. tetrasperma*. From soil, Oxshott, Surrey.

Helminthosphaeria Clavariarum (Tul.) Fuckel. Kirschstein **28** (XVIII, 305, 1934); Massee **14** (XVI, 36, 1887) as *Chaetosphaeria*; B. & Br. **19**, No. 563, 1851 as *Peziza*; Cooke **15**, 691; *Pleospora* Tul. in **114** (II, 271, 1863); *Peziza nigra* Sowerby in **42** t. 307, 1801. On *Clavaria*. Fuckel wrote the specific epithet "*Clavariae*". Kirschstein (loc. cit.) has transferred several species of *Rosellinia* section *Coniochaeta* to *Helminthosphaeria*.

Hypocopra capillifera (Currey) Sacc. in *Syll.* I, 246; *Sphaeria* Currey in **45** (XXII, 317*, 1859); Cooke **15**, 857; Bucknall **46** (II, 349); *Lasiosphaeria* Stevenson in **13**, 390; *Coniochaeta* Cooke in **14** (XVI, 17, 1887); Massee **14** (XVI, 37). On old wood, etc.

— **discospora** (Auersw.) Fuckel. Phill. & Plowr. **14** (II, 187, 1874) as *Sphaeria*; Vize Exs. 290; **14** (VII, 85) as *Sordaria*; **13**, 393; **14** (XVI, 120). On dung. Cain places this and several other species in *Coniochaeta*.

— **fimicola** (Rob. in Desm.) Sacc. B. & Br. **19**, No. 1097, 1865 as *Sphaeria*; Cooke **15**, 867, with *S. stercoraria* var. Currey **45** (XXII, 318*, 1859), cited as a synonym; Phill. & Plowr. **14** (VI, 28, 1877) as *Sordaria*; Bucknall **46** (III, 268, 1882); **14** (XVI, 119); **33** (XV, 342; XVI, 74; L, 334, 702 and 706); **74** (VII, 152); **32** (XXXIII, 372); Cooke Exs. II, No. 566. On dung, etc. See also *Gelasinospora* above.

— **fimicola** var. **canina** Karst. A Lorrain Smith **28** (III, 115, 1909). On dung.

— **humana** Fuckel. Stevenson **13**, 392, 1879 as *Sordaria*. On dung, Scotland.

— **maxima** (Niessl) Sacc. Phill. & Plowr. **14** (VIII, 107, 1880) as *Sordaria*. On dung.

— **microspora** (Phill. & Plowr.) Sacc. in *Syll.* I, 241; *Sordaria* Phill. & Plowr. in **14** (VI, 28*, 1877); **13**, 393; **46** (III, 269); **14** (XVI, 120); **7**, 231. On dung.

— **platyspora** (Phill. & Plowr.) Sacc. in *Syll.* I, 241; *Sordaria* Phill. & Plowr. in **14** (VI, 28*, 1877); Stevenson **13**, 394; **14** (XVI, 120); **46** (III, 69); **33** (XV, 342). On dung. Hawley **28** (VIII, 226) and Cain place this as a synonym of *H. scatigena*.

— **rotula** (Cooke) Sacc. in *Syll.* I, 246; *Sphaeria* Cooke in **15**, 868; Cooke Exs. 268; *Rosellinia* Cooke in **14** (XVI, 51); Massee **14** (XVI, 118). On sawdust, etc.

— **scatigena** (Berk. & Br.) Sacc. in *Syll.* I, 243; *Sphaeria* B. & Br. in **19**, No. 972*, 1861; Cooke **15**, 857; *Sordaria* Cooke in **14** (XVI, 55); Massee **14** (XVI, 120); A. Lorrain Smith **27** (XXXIV, 359); Foray 1920 as *S. discospora* var. *major*. On dung. See *H. platyspora* above.

— **serignanensis** Fabre. Crossland **35** (1900, 8); **7**, 231 as *Sordaria*. On dung, Yorks.

— **stercoraria** (Sowerby ex Fr.) Sacc. in *Syll.* I, 244; **33** (XV, 343, 1901); *Sphaeria* Sowerby in **42**, t. 357, 1802; Berk. **20**, 264, 1836; Currey **45** (XXII, 318*, 1859); B. & Br. **19** No. 1097, 1865; Cooke **15**, 867; *Sordaria* Cooke in **14** (XVI, 55); Massee **14** (XVI, 120); **33** (XV, 343); **27** (XXXIV, 359). On dung.

— **vesticola** (Berk. & Br.) Sacc. in *Syll.* I, 246; *Sphaeria* B. & Br. in **19**, No. 874, 1859; Cooke **15**, 869; *Sordaria* Cooke in **14** (XVI, 55); Massee **14** (XVI, 120); A. Lorrain Smith **27** (XXXIV, 359). On cotton cloth, Batheaston.

Hypoxylon Fr. British specimens have been described by J. H. Miller in three papers (cited "Miller I, II, or III" under the specific names) in **28** (XV, 134–54, 2 pls., 1930; XVII, 125–35, 3 pls., 1 fig., 1932; XVII, 136–46, 1932). See also Petch **35** (1938, 115).

— **argillaceum** Auct. Berk. **18**, 387, 1860; Cooke **15**, 795; Massee **14** (XV, 35); Miller I, 148; Rabenh. *Fungi Eur.* No. 247, coll. Broome; Plowr. Exs. I, No. 19; ?Berk. **19**, No. 169, 1841 as *Sphaeria*; Currey **45** (XXII, 266*, 1858). On *Fraxinus*. Miller, I and III, discusses the confusion over the name. See also *H. multiforme*.

[— **atropurpureum** Fr. Cooke **15**, 796, 1871; ?Bucknall **46** (II, 349); Massee **14** (XV, 35); **7**, 218; Berk. **20**, 239, 1836 as *Sphaeria*; Currey **45** (XXII, 267*). On wood. The British specimens are *H. rubiginosum*: see Miller III, 140.]

[**Hypoxylon botrys** Nits. Recorded by Berk. **20**, 239, 1836 and Cooke **15**, 862, as *Sphaeria botryosa* Fr. Currey **45** (xxii, 267*) examined a Friesian specimen. Miller III, 141 considers this name a synonym of *H. rubiginosum*, q.v.]

— "**coccineum** Bull." Cooke **15**, 794, 1871; **14** (xv, 34); Tul. **114** (ii, 33, 1863); Berk. **18**, 386; Ingold **32** (xxxii, 184); **62** (xii, 83); Miller I, 146* and III, 136; Plowr. Exs. ii, No. 10; Vize Exs. 275; Sowerby **42**, t. 271, 1800 as *Lycoperdon variolosum*; *Sphaeria tuberculosa* Sowerby in **42**, t. 374; Hooker **92**, 4, 1821 as *S. fragiformis*; Berk. **20**, 236; Currey **45** (xxii, 265*) and **66** (cxlvii, 548*); *Stromatosphaeria fragiformis* Greville in **39**, t. 136, 1825; Cooke Exs. 374 issued as *H. multiforme* var., then cited as type of *H. majusculum* Cooke, q.v. On *Fagus*. Miller III, 137 states that the correct name is *H. fragiforme* (Pers. ex Fr.) Kickx.

— **cohaerens** (Pers. ex Fr.) Fr. Berk. **18**, 387, 1860; Cooke **15**, 795; Massee **14** (xv, 35); Bucknall **46** (v, 50); Miller I, 138*; Plowr. Exs. iii, No. 17 (not found recorded by Miller); Berk. **20**, 237, 1836 as *Sphaeria*; Currey **45** (xxii, 266*). On *Fagus*.

[— **confluens** (Tode ex Fr.) Cooke in **14** (xi, 139); Cooke **14** (xiii, 16) makes it a synonym of *H. semi-immersum*; B. & Br. **19**, No. 597, 1851 as *Sphaeria*; **18**, 395; Cooke **15**, 864. Reported on *Quercus*, *Salix*, etc. Same as *H. semi-immersum* below.]

[— **crustaceum** Nits. Cooke **14** (xi, 139, 1883). Miller I, 139 places *H. crustaceum* Nits. as a synonym of *H. multiforme*.]

[— **decorticatum** Berk. in **14** (iv, 50, 1875). Teste Miller I, 145 this is *H. rubiginosum*, q.v.]

— **effusum** Nits. Massee & Crossland **7**, 369, 1905; **28** (ii, 75, 1905). Yorks. Miller III, 143 finds the type of *H. effusum* to be *H. serpens*.

— **fuscum** (Pers. ex Fr.) Fr. Berk. **18**, 387, 1860; Tul. **114** (ii, 38, 1863); Cooke **15**, 796; **14** (xv, 35); Miller I, 147*; Ingold **32** (xxxii, 190), spore discharge; Chesters **113** (1935, 100*); Vize Exs. 276; Plowr. Exs. i, No. 20; Cooke Exs. 246 and 467; Hooker **92**, 5, 1821 as *Sphaeria*; Berk. **20**, 237; Currey **45** (xxii, 266*); *Stromatosphaeria* Greville in **51**, 356, 1824; *Sphaeria tuberculosa* Bolton in **111**, t. 123, 1789; Sowerby **42**, t. 123, 1798. On *Corylus* and *Alnus* (teste Miller III, 148; reported on other hosts by some of the authors cited.

— **Howeianum** Peck. Miller II, 125*; Chesters **113** (1935, 103*, on Corylus); Plowr. Exs. ii, No. 12, 1875 as *H. coccineum*. Teste Miller, records of *H. coccineum* on hosts other than *Fagus* belong here.

[— **majusculum** Cooke in **14** (vii, 80, 1879); Sacc. i, 361; based on Cooke Exs. 374 issued as *H. multiforme* var. This is *H. coccineum* (q.v.) teste Miller.]

[— **miniatum** Cooke: see *H. rutilum* below.]

— **multiforme** (Fr.) Fr. Berk. **18**, 386*, 1860; Tul. **114** (ii, 41, 1863); Cooke **15**, 794; **14** (xv, 35); **35** (Sept. 1881); Miller I, 139*; Chesters **113** (1935, 98*); Thüm. Myc. Univ. No. 2174 ex Plowr.; Plowr. Exs. i, No. 18; Berk. **20**, 237, 1836 as *Sphaeria*; Currey **45** (xxii, 265*); Berk. Exs. 170; ?Berk. **19**, No. 169, 1841 as *S. argillacea*; perhaps *S. crustosa* Sowerby in **42**, t. 372, 1802 and t. 355 as *S. granulosa*, and *Stromatosphaeria elliptica* Greville in **39**, t. 114, 1824. On *Betula*.

[— **perforatum** Schwein. Cooke **14** (xvi, 77, 1888). On *Zea Mays*, Kew. Miller III, 140 regards this specimen as *H. rubiginosum*.]

— **rubiginosum** (Pers. ex Fr.) Fr. Berk. **18**, 387, 1860; Tul. **114** (ii, 40, 1863); Cooke **15**, 796; **14** (xv, 35); Miller I, 144*; Vize Exs. Nos. 155 and 493; Plowr. Exs. i, No. 21; Thüm. Myc. Univ. No. 1071, coll. Plowright; Berk. **20**, 239, 1836 as *Sphaeria*; **19**, No. 16, 1837; Currey **45** (xxii, 267*); *Stromatosphaeria* Greville in **39**, t. 110, 1824 (but Tulasne, loc. cit., thinks this may have been *H. fuscum*); Cooke Exs. 666 as *H. cohaerens* and 668 as *H. multiforme* var. *effusum*, teste Miller III, 139; see *H. decorticatum* above. On most deciduous trees. Following a misdetermination by Berkeley, British specimens of *H. rubiginosum* on *Fraxinus* have usually been called *H. multiforme*.

Hypoxylon rutilum Tul. in **114** (II, 38, 1863); Miller I, 141*; *H. miniatum* Cooke in **14** (VII, 80, 1879); Sacc. I, 375; Massee **14** (XV, 35). Miller III, 141 found the type specimens of *H. rutilum* and *H. miniatum* to be identical. He notes that the species appears to be confined to *Fagus*.

— **semi-immersum** Nits. Massee **14** (XV, 35, 1886). Miller I, 143* and III, 144 uses this name for many British specimens including Plowr. Exs. II, No. 55 as *Sphaeria confluens*. He considers *H. confluens* (q.v.) to be the same species.

— **serpens** (Pers. ex Fr.) Fr. Cooke **15**, 797, 1871; Massee **14** (XV, 35); Miller I, 141* and III, 142; Chesters **113** (1935, 100*); Cooke Exs. 667; Vize Exs. 492; Plowr. Exs. II, No. 11; Berk. **20**, 239, 1836 as *Sphaeria*; Currey **45** (XXII, 267*); ?*S. crustacea* Sowerby in **42**, t. 372–3, 1802. On decaying wood of deciduous trees.

— **stygium** (Lév.) Sacc. Miller II, 130*, 1932, points out that the only specimens of this tropical species collected in Britain were from the Chatsworth conservatory, Glamis, and were probably on imported wood. They were referred in error to *H. marginatum* (Schwein.) Berk., another tropical species and teste Miller=*H. truncatum*, in **18**, 387, 1860; Cooke **15**, 795; Massee **14** (XV, 35); **7**, 218; B. & Br. **19**, No. 595, 1851 as Sphaeria; Currey **45** (XXVI, t. 46).

— "**udum** Fr." Cooke **15**, 797, 1871; Bucknall **46** (II, 217, 1878); Massee **14** (XV, 35); **7**, 218; Miller II, 126* and III, 144; Plowr. Exs. II, No. 12 (not found verified in Miller); Berk. **20**, 243, 1836 as *Sphaeria*; Currey **45** (XXII, 268*). On *Quercus*. See Miller II regarding the name.

Muellerella polyspora Hepp. A. Lorrain Smith **28** (III, 116, 1909, and p. 178, 1910). On a lichen, Jersey. See Keissler **119**, 315.

Neurospora sitophila Shear & Dodge. Ramsbottom & Frances Stephens **28** (XIX, 218*, 1935). From battens of *Fagus*, Chichester.

— **tetrasperma** Shear & Dodge. Ramsbottom & Frances Stephens **28** (XIX, 217*, 1935). Cultured from charred *Ulex* from Woolwich.

Nummularia Bulliardi Tul. in **114** (II, 43, 1863). Cooke **15**, 798*, 1871; Bucknall **46** (II, 217, 1878); **35** (June 1880, Sept. 1881); **7**, 217; ?Sowerby **42**, t. 373, 1802 as *Sphaeria diffusa*; Berk. **20**, 240, 1836 as *S. nummularia*; Currey **45** (XXII, 268*); Berk. **18**, 386, 1860 as *Hypoxylon nummularium* Bull.; Miller **28** (XVII, 128*, 1932). On *Fagus*, not common. See **28** (XXIII, 219) *re* the name *Nummularia*.

— **discreta** (Schwein.) Tul. Anon. **23** (XVIII, 314*, 1911); Crossland **35** (1912, 88); **112**, 207; Miller **28** (XVII, 132*, 1930). Only one British collection is known, on *Pyrus Malus* (crab-apple), Yorks.

— **gigas** Phill. & Plowr. in **14** (VIII, 106*, 1880); Sacc. I, 398; Cooke **14** (XII, 5). On *Betula*. Miller **28** (XVII, 134, 1932) saw no type, but Shear **100** (1938, 586) found a specimen apparently authentic and on this made var. *gigas* of *Camarops tubulina*.

— **lutea** (Alb. & Schw. ex Fr.) Nits. Massee **14** (XV, 34, 1886); Miller **28** (XVII, 146, 1932); Berk. **19**, No. 170, 1841 as *Sphaeria*; Currey **45** (XXII, t. 46); *Hypoxylon* Berk. in **18**, 386, 1860; Cooke **15**, 793; Miller **28** (XV, 149*); Plowr. Exs. I, No. 16. On *Buxus*, etc. Shear **100** (XXX, 585) transferred it to *Camarops* as *C. tubulina* (Alb. & Schw.) Shear.

[— **succenturiata** (Tode ex Fr.) Nits. Massee **14** (XV, 34, 1886); *Hypoxylon* Berk. & Br. in **19**, No. 830, 1859; Cooke **15**, 793. Recorded in error on *Quercus* and *Acer*.]

Ophiostomella rostellata (Grove) Petrak & Syd. in **102** (XXIII, 238, 1925); *Coniothryium* Grove in **27** (1886, 135); Sacc. *Addit. I–IV*, 135. On scales of *Pinus*.

Philocopra collapsa (Griff.) Sacc. & D. Sacc. Recorded **28** (XVI, 4); see Appendix I.

— **discospora** Plowr. in **28** (I, 62*, 1899); Sacc. XVI, 434. On dung, N. Wootton.

— **pleiospora** (Wint.) Sacc. Phill. & Plowr. **14** (X, 72, 1881) as *Sordaria*; Bucknall **46** (III, 138*, 1881); **33** (XV, 338); **7**, 370. On dung.

Philocopra polyspora (Phill. & Plowr.) Sacc. in *Syll.* I, 763; *Sordaria* Phill. & Plowr. in **14** (x, 73*, 1881); Bucknall **46** (III, 269*, 1882). On dung, Bristol.
— **pusilla** Mouton. Gibb **35** (1905, 139) as *Sordaria*; **7**, 370. On dung, Yorks.
— **setosa** (Wint.) Sacc. Massee & Salmon **33** (xv, 336*, 1901; xvi, 74) as *Sordaria*; 7, 231. On dung.
Podospora Brassicae (Klotz.) Wint. in Rabenh. *Krypt.-Fl.* II, 171; *Sphaeria* Klotz. apud Berk. in **20**, 261, 1836; Currey **45** (xxII, 316*, 1859); B. & Br. **19**, No. 1333*, 1871; Cooke **15**, 856; Vize Exs. 288; Plowr. Exs. I, No. 64; *Lasiosphaeria* Stevenson in **13**, 389; *Coniochaeta* Cooke in **14** (xvi, 17, 1887); Massee **14** (xvi, 38); *Lasiosordaria* Chenan. in **117** (xxxv, 78); *Sordaria Curreyi* Auersw. in Niessl, *Beitr.* p. 192; Bucknall **46** (v, 52, 1886) as *Sordaria lanuginosa*. On old *Brassica*.
Poronia leporina Ellis & Everh. Crossland **35** (1901, 341, first record for Europe); Massee & Salmon **33** (xvi, 74*, 1902); **7**, 216. On dung, Yorks.
— **punctata** (Linn. ex Fr.) Fr. Berk. **20**, 235, 1836; **31** (1861, 193*); Cooke **15**, 791; **13**, 370; **33** (xIv, 245*); Plowr. Exs. II, No. 9; Cooke Exs. 468 and II, No. 213; Lightfoot **95** (II, 1050, 1777) as *Peziza*; Currey **45** (xxII, 265*) as *Sphaeria*; *Hypoxylon* Greville in **39**, t. 327, 1828; *Sphaeria truncata* Bolton in **111**, t. 127, 1789; Hooker **92**, 5, 1821 as *S. Poronia*. On dung.
Rosellinia Alchemillae A. L. Smith & Ramsb. in **28** (v, 239, 1916); Sacc. xxIv, 833. On *Alchemilla*, Scotland.
— **anthostomoides** Berl. Rea & Hawley **71** (xxxI, Part 13, p. 5*, 1912). On bark, Clare Island.
— **aquila** (Fr.) de Not. Tul. **114** (II, 249, 1863); **76** (IV, 5); **64** (xxxvI, 228*; xxxvII, 43); **5**, 234; **112**, 174; Kirschstein **28** (xvIII, 302*, 1934); Berk. **19**, No. 180, 1841 as *Sphaeria*; Currey **45** (xxII, 314*); Cooke **15**, 853*; Cooke Exs. 270 and II, No. 486; Vize Exs. 172; Plowr. Exs. I, No. 61; *Byssosphaeria* Stevenson in **13**, 385, 1879; Bucknall **46** (III, 69, 1880); Massee **14** (xvi, 35); Berk. **20**, 206, 1836 as *Sphaeria byssiseda*. Common on wood. See Kirschstein (loc. cit.) for notes on *Rosellinia*.
— **Buxi** Fabre. Kirschstein **28** (xvIII, 302*, 1934). On *Buxus*, Box Hill, Surrey.
— **callosa** Wint. Rhodes **108** (1933, 47); Petch **35** (1936, 58). On wood.
— **Desmazierii** (Berk. & Br.) Sacc. in *Fungi Ital.* t. 393 and *Syll.* I, 254; *Sphaeria* B. & Br. in **19**, No. 618*, 1852; Currey **45** (xxII, 314*); Cooke **15**, 854; *Byssosphaeria* Stevenson in **13**, 386, 1879; Massee **14** (xvi, 35, 1887). On wood.
— **detonsa** (Cooke) Sacc. in *Syll.* IX, 505; *Coniochaeta* Cooke in **14** (xv, 82, 1887). On wood of conifer, Jedburgh.
— **laminariana** Sutherland in **28** (v, 257*, 1916); Sacc. xxIv, 826. On *Laminaria*, Dorset.
— **ligniaria** (Grev.) Nits. in Fuckel, *Symb. Myc.*; Sacc. I, 269; Massee **37** (1909, 374); **5**, 235; Kirschstein **28** (xvIII, 302, 1934); *Sphaeria* Greville in **39**, t. 82, 1824; Currey **45** (xxII, 322*); **15**, 857; *Coniochaeta* Cooke in **14** (xvi, 16); Massee **14** (xvi, 37). On wood. See Chenantais **117** (xxxv, 55) for discussion of the *Coniochaeta* group of *Rosellinia*, and Kirschstein (loc. cit., p. 305) as *Helminthosphaeria*.
— **lignicola** (Cooke & Massee) Petrak & Syd. in **102** (1924, 333); *Sphaeropsis* Cooke & Massee in **14** (xvi, 8, 1887). On branches, doubtless *Quercus*. Petrak & Sydow found ascospores 6–8·5 × 5–7 μ (Cooke and Massee said 15 × 10 μ), paler and in smaller asci than those of the similar *R. pulveracea*.
— **malacotricha** (Auersw.) Niessl. Plowr. **28** (I, 63, 1899). On a conifer, Norfolk. Kirschstein (see above) transfers this to *Helminthosphaeria*.
— **mammiformis** (Pers. ex Fr.) Ces. & de Not. Massee **14** (xvi, 118, 1888); Kirschstein **28** (xvIII, 302*); *Psilosphaeria* Stevenson in **13**, 387, 1879; Bucknall **46** (v, 132); Berk. **20**, 264, 1836 as *Sphaeria*; Currey **45** (xxII, 318*); Cooke **15**, 865; Plowr. Exs. I, No. 70. On *Hedera*, etc.
[— "**mammoidea** Cooke". Recorded **28** (xII, 84) in error.]
— **mastoidea** Sacc. Grove **27** (L, 48, 1912). On wood, Studley Castle.

Rosellinia moroides (Currey) Sacc. in *Syll.* I, 262; Massee **14** (XVI, 118); *Sphaeria* Currey in **45** (XXII, 318*, 1859); Cooke **15**, 868. On wood.

— **necatrix** Prill. Massee **37** (1896, 1) "three localities in Britain"; **23** (V, 150, 1898; VII, 10; XV, 305; XVI, 389); Massee **5**B, 118*, 1899; **5**, 230; Nattrass **78** (1926, 66); **89**, 161* and 203; **64** (XXXVI, 228); **68** (1926, 66); **77** (1928–30, II, 125); **85** (XXII, 453); **79** (III, 24; V, 30; VI, 19; VII, 19 and 36; VIII, 12; XI, 46; XIII, 34); **22** (Misc. Publ. 70, p. 21, 1929); **84** (III, 188); **112**, 173. On *Pyrus*, *Ribes*, *Ulmus*, *Phaseolus*, *Arum*, *Solanum*, etc. Perithecia not known in Britain.

— **papaverea** (Berk. & Br.) Ces. & de Not. Sacc. I, 257; Massee **14** (XVI, 118, 1888); Hawley **28** (VIII, 228), note on type; *Sphaeria* B. & Br. in **19**, No. 612*, 1851; Cooke **15**, 867. On wood.

— **pulveracea** (Ehrh. ex Fr.) Fuckel. Massee **14** (XVI, 118, 1888); **37** (1909, 374); Berk. **20**, 265, 1836 as *Sphaeria*; Currey **45** (XXII, 319*); B. & Br. **19**, No. 973; Cooke **15**, 868; Cooke Exs. II, No. 681; Plowr. Exs. I, No. 75; Vize Exs. 176; *Psilosphaeria* Stevenson in **13**, 387; Bucknall **46** (III, 69, 1880); *Coniomela* Kirschstein in **28** (XVIII, 306, 1934). On bark.

— **quercina** Hartig. G. Brown **64** (XVII, 280, 1904); M. Wilson **64** (XXXVI, 227*, 1922); **76** (IV, 1, 1930). On seedlings of *Quercus*, Scotland.

— **sordaria** (Fr.) Rehm. Massee **14** (XVI, 118, 1888); Berk. **20**, 265, 1836 as *Sphaeria*; Currey **45** (XXII, 319*); Cooke **15**, 868. On *Pinus*.

— **thelena** (Fr.) Rabenh. **35** (1934, 96); Currey **45** (XXII, 315*, 1859) as *Sphaeria*; Cooke **15**, 853; Cooke Exs. 585 and II, No. 485; *Byssosphaeria* Stevenson in **13**, 385, 1879; Massee **14** (XVI, 35); Berk. **20**, 259, 1836 as *Sphaeria aquila*. On wood. See Kirschstein **28** (XVIII, 302*).

— **tunicata** Kirschst. Grove **27** (LXXI, 251, 1933); Rhodes **108** (1933, 47); *Helminthosphaeria* Kirschst. in **28** (XVIII, 305, 1934). On *Quercus*.

— **velutina** Fuckel. Kirschstein **28** (XVIII, 305, 1934, transferred to *Helminthosphaeria*). On *Fagus*, Richmond Park, Surrey and near Birmingham. Reported also in **28** (IX, 9) from Keswick Foray, 1922.

Sordaria anserina (Ces. in Rabenh.) Wint. Massee & Salmon **33** (XV, 334*, 1901). On dung, Kew.

— **arenicola** Grove in **27** (LXVIII, 66, 1930). On sand, Lancs.

— **bombardioides** Auersw. Massee & Salmon **33** (XVI, 73, 1902); Wheldon **27** (L, 184, 1912). On dung.

— **carbonaria** (Phill. & Plowr.) Sacc. in *Syll.* I, 233; **14** (XVI, 119); *Sphaeria* Phill. & Plowr. in **14** (II, 188*, 1874); Plowr. Exs. II, No. 58; *Psilosphaeria* Cooke & Plowr. in **14** (VII, 85); *Podospora* A. L. Smith in **27** (XXXIV, 359). On burnt ground near Shrewsbury. See Winter in Rabenh. *Krypt.-Fl.* II, 236. Cain thinks it belongs to *Entosordaria*. See *Lasiosphaeria ambigua* below.

— **caudata** (Currey) Sacc. in *Syll.* I, 236; Bucknall **46** (III, 268); Massee **14** (XVI, 119); *Sphaeria* Currey in **45** (XXII, 320*, 1859); B. & Br. **19**, No. 1333*, 1871; Cooke **15**, 869; Plowr. Exs. II, No. 60; *Podospora* A. L. Smith in **27** (XXXIV, 359). On old wood.

— **coprophila** (Fr.) Ces. & de Not. Bucknall **46** (III, 69, 1880); Massee **14** (XVI, 119, 1888); B. & Br. **19**. No. 596, 1851 as *Sphaeria*; Cooke **15**, 866; Vize Exs. 392; *Lasiosordaria* Chenan. in **117** (XXXV, 78). On dung. Kirschstein transferred this to *Bombardia*, and Cain follows him. See *Bovilla Capronii* above.

— **coronifera** Grove in **27** (LIV, 185*, 1916). On dung, near Birmingham.

— **curvicolla** Wint. Massee & Salmon **27** (XV, 337*, 1901). On dung, Kew.

— **curvula** de Bary. Stevenson **13**, 394, 1879; Bucknall **46** (III, 138, 1881); **32** (XXXII, 176) spore discharge, also **33** (XV, 338*; XLII, 567); **14** (XVI, 119); Plowr. Exs. III, No. 43; Cooke **14** (IV, 113, 1876) as *Sphaeria*; Cooke Exs. 587; Plowr. Exs. I, No. 74 as *S. stercoraria*, corrected in Cent. III to *S. curvula*. On dung. Massee and Crossland **7**, 230 record form *coronata* Wint.

— **curvula** var. **aloides** (Fuckel) Wint. Cooke Exs. II, No. 682; Cooke **14** (V, 63, 1876) as *Sphaeria*. On dung.

Sordaria decipiens Wint. Massee **14** (xvi, 119, 1888); **33** (xv, 343; xvi, 58 and 74); **7**, 230; Cooke Exs. ii, No. 683. On dung.
— **fimiseda** Ces. & de Not. Phill. & Plowr. **14** (vi, 28, 1877); Stevenson **13**, 393, 1879; Massee **14** (xvi, 119); **33** (xv, 340); **32** (xxxii, 184) as *Podospora*. On dung.
— **fimiseda** var. **appendiculata** (Auersw.) Wint. Massee & Salmon **33** (xv, 340*, 1901). On dung.
— **globosa** Massee & Salm. in **33** (xv, 334*, 1901); Sacc. xvii, 602. On dung.
— **hirta** Hansen. Massee & Salmon **33** (xv, 336*, 1901). On dung, Kew.
— **lignicola** Fuckel. Grove **27** (l, 48, 1912; lxviii, 65). On wood, Worcs.
— **macrospora** Auersw. Massee & Salmon **33** (xv, 339*, 1901). On dung. Saccardo places this and the next species in *Hypocopra*.
— **minima** Sacc. & Speg. Massee & Salmon **33** (xv, 335*, 1901). On dung, Kew.
— **minuta** Fuckel. Massee **14** (xvi, 119); **33** (xv, 342); **28** (xx, 186*) as *Podospora*. On dung.
— **neglecta** Hansen. Massee & Salmon **33** (xv, 339*, 1901); **7**, 230. On dung.
— **sparganicola** Plowr. apud Bucknall in **46** (iii, 268*, 1882, with description); redescribed by Phill. & Plowr. in **14** (xiii, 76, 1885); Sacc. *Addit. I–IV*, 39; Massee **14** (xvi, 119); *Podospora* A. L. Smith in **27** (xxxiv, 359, 1896). On *Sparganium* near Bristol.
— **sparganicola** var. **velata** Bucknall in **46** (v, 46* and 52, 1886); Sacc. ix, 489. On Umbelliferae, Bristol.
— **squamulosa** Crouan. Massee & Crossland **7**, 231, 1905. On dung, Yorks.
— **tetraspora** Wint. Phill. & Plowr. **14** (vi, 28, 1877) as *S. minuta* f. *tetraspora*; **46** (iii, 138*); Plowr. Exs. iii, No. 45. On dung. Cain considers this a distinct species.
— **Winterii** Karst. Massee & Salmon **33** (xv, 340*, 1901). On dung.
Thamnomyces hippotrichoides (Sowerby) Ehrenb. gen.nov. ex Fr. in *Systema*, Index; Berk. **18**, 385, 1860; Tul. **114** (ii, 21); Cooke **15**, 792*; **14** (xv, 39); *Sphaeria* Sowerby in **42**, t. 200, 1799 as "*hypotrichoides*"; Berk. **20**, 284, 1836; **19**, No. 94, 1838; *Xylaria* Sacc. in Syll. i, 344. On old sacks, etc.
Ustulina vulgaris Tul. in **114** (ii, 23, 1863); Cooke **15**, 793; **14** (xv, 34); Wilkins **28** (xviii, 320; xx, 133; xxii, 47); **107**, 3; Cooke Exs. ii, No. 465; Vize Exs. 156; Plowr. Exs. i, No. 15; *Sphaeria maxima* Bolton in **111**, t. 181, 1791; Sowerby **42**, t. 338, 1801; Hooker **92**, 5, 1821 as *S. deusta* Hoffm.; Berk. **20**, 240; Currey **45** (xxii, 268*); *Nemania deusta* S. F. Gray gen.nov. in *Nat. Arr. Brit. Pls.* i, 516, 1821; *Stromatosphaeria deusta* Greville in **51**, 355, 1824; *Hypoxylon deustum* Greville in **39**, t. 324, 1828; Berk. **18**, t. 24, 1860 as *H. ustulatum* Bull.; Miller **28** (xv, 143*, 1930). Common on deciduous trees, found once on *Taxus*. The valid specific epithet is *deusta* (*Sphaeria deusta* Hoffm. ex Fr.).
Xylaria bulbosa (Pers. ex Fr.) Berk. & Br. in **18**, 385*, 1860; Tul. **114** (ii, 20, 1863); Sacc. i, 340; 15, 791; Massee **14** (xv, 33); Rabenh. *Herb. Myc.* ii, No. 133, 1860, coll. Broome. Amongst leaves of conifers. See Petch **35** (1939, 157) for *Xylaria*.
— **carpophila** (Pers. ex Fr.) Fr. Berk. **18**, 384, 1860; Cooke **15**, 790; **14** (xv, 34); **7**, 216; **65** (xxxii, 380); Cooke Exs. 364; Plowr. Exs. i, No. 14; Berk. **20**, 235, 1836 as *Sphaeria*; Currey **45** (xxii, 264*). On beech mast.
— **corniformis** Fr. Berk. **18**, 384, 1860; Cooke **15**, 789; Massee **14** (xv, 33); **7**, 216. On branches. Doubtful; see *X. longipes*.
— **Culleniae** Berk. & Br. Massee **37** (1907, 240) reported it as an introduced species not uncommon on bamboo, Kew.
— **digitata** (Linn. ex Fr.) Greville in **51**, 356, 1824; Sacc. i, 339; Bucknall **46** (iii, 68, 1880); Massee **14** xv, 32; Berk. **20**, 234, 1836 as *Sphaeria*; Currey **45** (xxii, t. 45). On worked timber.
— **filiformis** (Alb. & Schw. ex Fr.) Fr. Massee **14** (xv, 33, 1886); **7**, 216. On dead leaves.

Xylaria Hypoxylon (Linn. ex Fr.) Greville in **51**, 355, 1824; Currey **45** (xxii, 264*); Berk. **18**, 384*; Tul. **114** (ii, 10); **60** (1871, 77*) Cooke **15**, 790; **14** (xv, 34); **64** (xvii, 344); Baxter Exs. 74; Plowr. Exs. i, No. 13; Vize Exs. 273; Cooke Exs. 363 and ii, No. 215; Lightfoot **95** (ii, 1059, 1777) as *Clavaria*; Sowerby **42**, t. 55, 1796 as *Sphaeria*; **92**, 4; **20**, 235; *S. ramosa* Dickson in **44** (iv, t. 12, 1801); *Fungus ramosus* [etc.] Ray 1696, teste Tul. Common on stumps, etc.

— **longipes** Nits. Plowr. **28** (i, 61*, 1899); Berk. Exs. 277 as *Sphaeria corniformis*, teste Miller in Chardon & Toro, *Mycolog. Explor. Venezuela*, 1934, p. 217. On branches. See also Appendix I.

— **Oxyacanthae** Tul. Petch **35** (1939, 159). On fallen fruits of *Crataegus*, Yorks.

— **pedunculata** (Dickson ex Berk.) Fr. in *Summ. Veg. Scan.* p. 382; Sacc. i, 332; Berk. **18**, 385, 1860; Tul. **114** (ii, 17, 1863); **15**, 790; **14** (xv, 34); **33** (xv, 351, 1901, type re-examined); Plowr. Exs. iii, No. 16; *Sphaeria* Dickson in **44**, 27*, 1801; Berk. **19**, No. 93, 1838; Sowerby **42**, t. 437, 1815; Currey **45** (xxii, 262*, 1858; Berk. **31** (1854, 100*); **31** (Apr. 15*, 1871); Berk. Exs. 168. From dung. Berkeley (**20**, 235, 1836) at first considered this a var. of *X. Hypoxylon*, but later (*Mag. Zool. Bot.* 1838, 223*) found it distinct.

— **polymorpha** (Pers. ex Fr.) Greville in **51**, 35*, 1824; **39**, t. 237, 1826; Sacc. i, 309; Tul. **114** (ii, 7, 1863); Cooke **15**, 789*; **14** (xv, 33); **34** (xx, 123, black lines); Vize Exs. 274, 496, 497; Plowr. Exs. i, No. 12; Cooke Exs. 484 and ii, No. 214; Hooker **92**, 4, 1821 as *Sphaeria*; Berk. **20**, 234, 1836; Currey **45** (xxii, 263*; xxv, 240); ?*S. digitata* Sowerby in **42**, t. 69, 1797. Common on stumps, etc. Forms such as "var. *pistillaris*" (Foray 1916) are sometimes recorded. See Ramsbottom, *Handbook of the Larger British Fungi*.

— **scotica** Cooke in **14** (iv, 112*, 1876); Sacc. i, 319; Stevenson **13**, 369, 1879; **18**A, 361; **14** (xv, 33). On the ground, Scotland. Petch **35** (1939, 158), says that this and the next are *X. digitata*.

— **tortuosa** Sowerby ex Cooke in **14** (viii, 10, 1879); Sacc. i, 320; **18**A, 361; **14** (xv, 33). On the ground, London.

— **Tulasnei** Nits. Cooke & Plowr. **14** (vii, 79, 1879, considered hardly distinct from *X. pedunculata*); **14** (xv, 34); Plowr. **28** (i, 61*) cites Rabenh. Exs. 636 from Broome; *X. pedunculata pusilla* Tul. in **114** (ii, 18, 1863). On soil.

— **vaporaria** Berk. apud Currey in **45** (xxiv, 157*, 1863); Sacc. i, 341; B. & Br. **19**, No. 1095, 1865; Cooke **15**, 791; **14** (xv, 33); **31** (1879, 801*); **56** (lix, 235); **50** (xxvii, 829); **23** (xlii, 119); **85** (xxxi, 16; xxxiii, 37; xxxv, 27; xxxvii, 27; xxxix, 23); **89**, 108*. From sclerotia in mushroom beds. Petch **35** (1939, 158) regards this as a syn. of *X. pedunculata*.

SPHAERIACEAE: HYALODIDYMAE

Apioporthe vepris (de Lacr.) Wehmeyer in **28** (xvii, 289, Mar. 1933) and Monog. p. 221, Dec. 1933; Massee **14** (xvi, 13, 1887) as *Diaporthe*; **37** (1909, 374); Grove **27** (lxviii, 71, 1930, considered it a form of *D. insignis*, but Wehmeyer places the latter with *D. pardalota*); Cooke **15**, 888, 1871 as *Sphaeria*; Plowr. Exs. ii, No. 71; *S. Rubi* Currey in **45** (xxii, 325*, 1859); Massee **14** (xv, 118) as *Diaporthe nidulans*; Rilstone **27** (1935, 103); Bucknall **46** (v, 47* and 51, 1886) as *Valsa nidulans*; Plowr. Exs. iii, No. 63 as *Diaporthe rostellata*. On *Rubus*. See note under *Diaporthe* below.

Bertia lichenicola de Not. Cooke **14** (i, 156, 1873) as *Sphaeria* (apparently comb. nov.); *Psiolosphaeria* Cooke & Plowr. in **14** (vii, 85, 1879); Stevenson **13**, 389, 1879; Massee **14** (xvi, 117). On a lichen, Scotland. Keissler **119**, 320 transfers it to *Rhagadostoma*.

— **moriformis** (Tode ex Fr.) de Not. Hawley **35** (1912, 342) and **28** (viii, 227, 1923) with spores finally 3–7 septate; Grove **27** (lxvi, 356); *Psilosphaeria* Stevenson in **13**, 386, 1879; **14** (xvi, 117); **7**, 229; Hooker **92**, 8, 1821 as *Sphaeria*; Berk. **20**, 265; Currey **45** (xxii, 317*); Cooke **15**, 861; Cooke Exs. 586 and ii, No. 487; Vize Exs. 175; Plowr. Exs. i, No. 67; *S. claviformis* Sowerby in **42**, t. 337, 1801 and *S. rubiformis* Sow. in **42**, t. 373; *S. rugosa* Greville in **39**, t. 39, 1823. Common on wood.

Boydia remuliformis A. L. Smith gen.nov. in **28** (VI, 151*, 1919); Sacc. XXIV, 683; **37** (1920, 216). On *Ilex*, Ayrshire and Kew. See *Vialaea insculpta* below.

Calyculosphaeria collapsa (Romell) Fitzpatrick in **100** (1923, 52); Massee **28** (I, 24, 1897) as *Bertia*; Hawley **28** (VIII, 227, said to be a form of *Melanopsamma pomiformis*). On *Ribes*.

— **tristis** (Fuckel) Fitzpatrick gen.nov. in **100** (1923, 48), based on Rabenh. *Fungi Europ.* No. 632, issued 1864, marked *Sphaeria tristis* Tode, coll. C. E. Broome, England. Fitzpatrick cites also Vize Exs. 391. But he considers *S. tristis* Tode to be a *Chaetosphaeria*, so some of the following British records must be considered doubtful: **19**, No. 181, 1841; B. & Br. **19**, No. 618, 1852, and No. 1332, 1871; Currey **45** (XXII, 315*); Cooke **15**, 855; Plowr. **14** (II, 45); *Byssosphaeria* Cooke in **14** (XV, 122); Massee **14** (XVI, 35); **7**, 226. On wood, associated with members of the Diatrypaceae. See also *Chaetosphaeria phaeostroma*.

Ceriosporella Polygoni A. L. Smith & Ramsb. in **28** (IV, 325, 1914); Sacc. XXIV, 962. On *Polygonum*, Ayrshire.

Coleroa Alchemillae (Greville) Wint. in Rabenh. *Krypt.-Fl.* II, 199, 1885; *Asteroma* Greville in **51**, 369, 1824; *Dothidea* Berk. in **20**, 288; Cooke **15**, 929 as *Stigmatea* Fr.; Cooke Exs. II, No. 698; *Venturia* B. & Br. in **19**, No. 1493, 1875; Sacc. I, 593; **14** (IV, 68; VII, 89; XVI, 38); **13**, 409. On *Alchemilla*.

— **atramentaria** (Cooke) Schroet. in *Krypt.-Fl. Schles.* II, p. 296; *Venturia* Cooke in **40** (I, 192, 1872) and **14** (I, 175, 1873); Sacc. I, 590; **27** (XI, 32, 1873); **14** (VII, 88; XVI, 38); **13**, 410; Cooke Exs. 599 and II, No. 583. On *Vaccinium*.

— **Chaetomium** (Kunze ex Fr.) Rabenh. Berk. **19**, No. 200, 1841 as *Dothidea*; Cooke **15**, 929 as *Stigmatea*; **13**, 368; Vize Exs. 199; Plowr. Exs. II, No. 98; Massee **14** (XVI, 38) as *Venturia Kunzei* Sacc. On *Rubus*.

— **Potentillae** (Sowerby ex Fr.) Wint. in Rabenh. *Krypt.-Fl.* II, 199; *Sphaeria* Sowerby in **42**, t. 370, 1802; *Dothidea* Fr. in *Syst.* II, 563; Berk. **20**, 288; Cooke **15**, 929 as *Stigmatea*; Cooke Exs. 174; Plowr. Exs. II, No. 99; *Venturia* Cooke in **14** (VI, 76*, 1877) and Exs. II, No. 587; Sacc. I, 594; **14** (XVI, 38); Vize Exs. 488. On *Potentilla*.

Cryptodiaporthe Aesculi (Fuckel) Petrak in **102** (XIX, 119, 1921); Wehmeyer **28** (XVII, 287, 1933) and Monog. p. 209; *Valsa Hippocastani* Cooke in **14** (XIII, 98, 1885); **14** (XV, 118); Vize Exs. 597 (cited by Wehmeyer); *Diaporthe Hippocastani* (Cooke) Berl. & Vogl. in Sacc. *Addit. I–IV*, 105; *Valsa aesculicola* Cooke in **14** (XIV, 47, 1885); *Diaporthe aesculicola* Berl. & Vogl. in Sacc. *Addit. I–IV*, 105. On *Aesculus Hippocastanum*. See note under *Diaporthe* below.

— **Aubertii** (Westend.) Wehmeyer in Monog. p. 202; no British specimen cited, but *Diaporthe Wibbei* is cited as a synonym: for this see Phill. & Plowr. **14** (VI, 26, 1871); Massee **14** (XVI, 13); Foray 1912 (Appendix I). On *Myrica gale*.

— **castanea** (Tul.) Wehmeyer in **28** (XVII, 284, 1933) and Monog. p. 205, Dec. 1933; Grove **27** (LXXI, 254, 1933) as *Diaporthe*; Rhodes **108** (1933, 48). On *Castanea*, Arundel and Worcs.

— **hranicensis** (Petrak) Wehmeyer in **28** (XVII, 288, 1933) and Monog. p. 214, Dec. 1933. On *Tilia*, Oscott College near Birmingham and Richmond Park, Surrey.

— **hystrix** (Tode? ex Fr.) Petrak in **102** (XIX, 119, 1921); Wehmeyer **28** (XVII, 285, 1933) and Monog. p. 207; ?Berk **20**, 244, 1836 as *Sphaeria*; Ellis **28** (V, 228) as *Diaporthe longirostris* (Tul.) Sacc. On *Acer Pseudoplatanus*. See also *Peroneutypa heteracantha*.

— **Lebiseyi** (Desm.) Wehmeyer in **28** (XVII, 280, 1933) and Monogr. p. 192, Dec. 1933. Lectotype cited by Wehmeyer as Herb. Berk. Sheet 2372 in Kew Herb. as *Sphaeria blepharodes* Berk. & Br. (in **19**, No. 978*, 1861); Cooke **15**, 882; Bucknall **46** (IV, 201, 1885); Cooke Exs. II, No. 244 (cited by Wehmeyer); Plowr. Exs. II, No. 69; *Diaporthe blepharodes* (Berk. & Br.) Sacc. in *Syll.* I, 678; Massee **14** (XVI, 14). On *Acer*.

— **pyrrhocystis** (Berk. & Br.) Wehmeyer in **28** (XVII, 286, 1933) and Monog. p. 208, Dec. 1933. Lectotype cited as Rabenh. *Fungi Europ.* No. 136 [Ser. II,

1860, coll. Broome] issued as *Diatrype* B. & Br. (in **19**, No. 841*, 1859); Cooke **15**, 814; **40** (VII, 89); Plowr. *Sphaer. Brit.* I, No. 35 (also cited by Wehmeyer); Cooke Exs. 241; Massee **14** (XV, 69); *Diaporthe* Fuckel in *Symb. Myc.* p. 204; Sacc. I, 624. On *Corylus*.

— **Robergeana** (Desm.) Wehmeyer in Monog. p. 200: British collection not mentioned, but Cooke **14** (XIV, 7, 1885) records it as *Valsa*; Massee **14** (XV, 118). On *Staphylea*.

— **salicella** (Fr.) Petrak (exclud. diag.) in **102** (XIX, 182, 1921); Wehmeyer **28** (XVII, 281) and Monog. p. 193. Wehmeyer cites Plowr. Exs. II, No. 67 issued as *Sphaeria salicella* and Exs. II, No. 44 issued as *Diaporthe spina*. The following doubtless refer in part to the next entry: Berk. **20**, 278, 1836 as *S. salicella*; Cooke **15**, 886; Massee **14** (XVIII, 11) as *Endophlaea*; Phill. & Plowr. **14** (III, 126, 1875) as *Diaporthe spina*; Cooke Exs. II, No. 489; Massee **14** (XVI, 14). On *Salix*. See *Didymella Salicis*.

— **salicina** (Currey) Wehmeyer in **28** (XVII, 282, 1933) and Monog. p. 194, Dec. 1933. Wehmeyer includes the following: Cooke Exs. II, No. 246 as *Sphaeria salicella*; Vize Exs. 180; four packets in Kew, including type, of *Valsa punctata* Cooke and two specimens ex Herb. Mason. *V. punctata* was described in **14** (XIV, 47, 1885); Massee **14** (XV, 118); *Diaporthe* Berl. & Vogl. in Sacc. *Addit. I–IV*, 108. Wehmeyer lists as a synonym *D. sphingiophora* (Oudem.) Sacc. [*Endophloea* Cooke in **14** (XVII, 89), Massee **14** (XVIII, 11), Cooke **14** (XIV, 7) as *Sphaeria*, but this record, on *Cornus*, is doubtless wrong.] *C. salicina* is recorded on *Populus* and *Salix*.

Diaporthe Nits. emend. Wehmeyer. *Diaporthe* Nitschke was first published in Fuckel, *Symb. Myc.* p. 203, 1869, as "*Diaporthe* Nitschke *Pyr. germ.* I, p. 240", but p. 161 et seq. of Nitschke's book did not appear until 1870.

For British species see **28** (XVII, 237–95, Mar. 1933), and the Monograph "The Genus *Diaporthe* Nitschke and its segregates", Univ. Michigan Press, Dec. 1933. Wehmeyer segregated as genera *Diaporthopsis*, *Apioporthe*, *Diaporthe*, *Diaporthella* and *Cryptodiaporthe*, and reduced many specific names to synonomy. Species in these genera except *Diaporthe* are here arranged as suggested by Wehmeyer, but since so many of the British records in *Diaporthe* are based on specimens that he had no opportunity of examining, the records are included under the published names, followed in brackets by the names Wehmeyer gives, if different. We have not attempted to disentangle the Exsiccati records so they are mostly not listed.

— **Aceris** Fuckel (*D. varians*). Cooke Exs. II, No. 685; Massee **14** (XV, 117, 1887) as *Valsa*; Bucknall **46** (V, 131, 1887). On *Acer*.

— **acus** (Bloxam) Cooke in **14** (VII, 81, 1879) (*Gnomonia* sp.). Sacc. I, 653; Bucknall **46** (IV, 201, 1885); Massee **14** (XVI, 12); *Sphaeria* Bloxam apud Currey in **45** (XXII, 325*, 1859); Cooke **15**, 894. On *Rumex*.

— **adunca** (Rob. in Desm.) Niessl (*D. Arctii*). Massee **14** (XVI, 12, 1887). On *Plantago*.

— **Ailanthi** Sacc. (*D. medusaea*). Cooke **14** (XIII, 98, 1885) as *Valsa*; **14** (XV, 118). On *Ailanthus*.

— **alnea** Fuckel (*D. eres*). Massee **14** (XVI, 14, 1887). On *Alnus*.

— **ambigua** Nits. (*D. eres*). Massee **37** (1915, 104*); **5** (2nd ed. p. 4 appendix). On fruit trees. Massee claimed that *Coniothecium chomatosporum* Corda was a stage of *D. ambigua*.

— **americana** Speg. (?*D. eres*). Rhodes **108** (1933, 48). On *Magnolia*.

— **Arctii** (Lasch) Nits. Wehmeyer **28** (XVII, 242), Monog. p. 22; Phill. & Plowr. **14** (VI, 26, 1877); **14** (VII, 82; XVI, 12); Bucknall **46** (IV, 201); Grove **27** (1916, 187). On *Arctium*, etc.

— **Aucubae** Sacc. Cooke & Plowr. **14** (VII, 81, 1879); Massee **14** (XVI, 12); Rhodes **108** (1933, 48). On *Aucuba*.

— **Badhami** (Currey) Cooke & Plowr. in **14** (VII, 81, 1879) (*D. eres*), Stevenson **13**, 373, 1879; Sacc. I, 635; Massee **14** (XVI, 12); *Sphaeria* Currey in **45** (XXII, 270*, 1858); *Diatrype* B. & Br. in **19**, No. 836, 1859; Cooke **15**, 815. On branches, Scotland.

Diaporthe Beckhausii Nits. Wehmeyer, Monog. p. 131. Bucknall **46** (v, 48 and 51, 1886); Massee **14** (xvi, 14); Rhodes **108** (1933, 48); Cooke Exs. 672 as *Valsa*. On *Viburnum*.

— **Carpini** (Pers. ex Fr.) Fuckel. Wehmeyer, Monog. p. 165. Massee **14** (xv, 117, 1887) as *Valsa*; Christy **62** (xii, 83) as *D. Betuli*. On *Carpinus*.

— **Cerasi** Fuckel (*D. eres*). Massee **14** (xvi, 13, 1887). On *Prunus*.

— **ceuthosporoides** (Berk.) Sacc. in *Syll.* i, 646 (*D. pardalota*). Massee **14** (xvi, 12, 1887); *Sphaeria* Berk. in **20**, 258, 1836; Cooke **15**, 895; **19**, No. 179, 1841; *Hypospila* Cooke in **14** (xiii, 105, 1885); **7**, 220. On *Prunus Laurocerasus*.

— **Chailletii** Nits. Wehmeyer **28** (xvii, 244); Monog. p. 45; Phill. & Plowr. **14** (viii, 106, 1880); Massee **14** (xvi, 13). On *Atropa*.

— **ciliaris** (Currey) Sacc. in *Syll.* i, 676 (*D. eres*). Massee **14** (xvi, 14, 1887); *Sphaeria* Currey in **68**A (vii, 231, 1859); Cooke **15**, 880. On *Fraxinus*.

— **circumscripta** (Fr.) Otth in Fuckel (*D. spiculosa*). Bucknall **46** (v, 48, 85, 1886); Massee **14** (xvi, 14); Vize Exs. 596; Cooke **15**, 834, 1871 as *Valsa*. On *Sambucus*.

— **conjuncta** (Nees ex Fr.) Fuckel. Grove **1** (i, 183) on *Corylus*; Massee **14** (xv, 117, 1887, as *Valsa* "on *Rubus*"). A doubtful species.

— **conorum** (Desm.) Niessl (*D. eres*). Hahn **28** (xv, 51, 1930). On conifers, Britain.

— **controversa** (Desm.) Nits. (*D. eres*). Hawley **28** (viii, 229, 1923); **65** (xxxii, 341); B. & Br. **19**, No. 602, 1851 as *Sphaeria*; Cooke **15**, 824, 1871 as *Valsa*; Bucknall **46** (iii, 69). On *Fraxinus*, etc.

— **coramblicola** (Berk. & Br.) Sacc. in *Syll.* i, 623 (*D. Arctii*). Massee **14** (xvi, 13); *Diatrype* B. & Br. in **19**, No. 1725, 1878. On *Brassica*.

— **Corni** Fuckel (*D. pardalota*). Massee **14** (xvi, 14, 1887); Rhodes **108** (1933, 48); Vize Exs. 590. On *Cornus*.

— **Crataegi** (Currey) Nits. in Fuckel, *Symb. Myc.* p. 204; Wehmeyer **28** (xvii, 268), Monog. p. 150; Sacc. ix, 710; *Sphaeria* Currey in **45** (xxii, 278*, 1858); *Valsa* B. & Br. in **19**, No. 848, 1859 and No. 1986, 1882; Cooke **15**, 833; Massee **14** (xv, 119); *Pseudovalsa* Cooke in **14** (xiv, 48). On *Crataegus*.

— **crustosa** Sacc. & Roum. (*D. eres*). Bucknall **46** (v, 127* and 131, 1887); Rilstone **27** (1935, 103); **35** (1913, 27). On *Ilex*.

— **cryptica** Nits. (*D. eres*). Massee **14** (xvi, 12, 1887). On *Lonicera*.

— **culta** Sacc. & Speg. Rhodes **108** (1933, 48); Rilstone **27** (1935, 103). On *Jasminum*. Probably a form of *D. eres*.

— **decedens** (Fr.) Fuckel. Wehmeyer **28** (xvii, 265) and Monog. p. 129; Berk. **19**, No. 24, 1837 as *Sphaeria*; Cooke **15**, 881; Bucknall **46** (iii, 138); Massee **14** (xv, 118, host cited in error as "elm") as *Valsa*; **7**, 223. On *Corylus*.

— **decorticans** (Lib.) Sacc. & Roum. (*D. Padi*). Recorded **28** (vii, 8, 1921) on *Prunus Cerasus*, Minehead Foray.

— **delitescens** Bomm. Rouss. & Sacc. Grove **27** (1930, 275). On *Liriodendron*, Cornwall. Probably *D. eres*.

— **Desmazierii** Niessl (*D. Arctii*). Massee **14** (xv, 13, 1886). On *Prunella*.

— **detrusa** (Fr.) Fuckel. Wehmeyer Monog. p. 175; A. Lorrain Smith **28** (iii, 117); Berk. **19**, No. 18, 1837 as *Sphaeria*; Currey **45** (xxii, 275*); Cooke **15**, 837, 1871 as *Valsa*; Massee **14** (xv, 119); Bucknall **46** (v, 131). On *Berberis*.

— **discors** Sacc. (*D. Arctii*). Bucknall **46** (iv, 201, 1885); Massee **14** (xvi, 12). On *Rumex*.

— **discrepans** Sacc. (*D. Arctii*). Bucknall **46** (v, 127* and 131, 1887). On *Rumex* near Bristol.

— **discutiens** (Berk.) Sacc. in *Syll.* i, 677 (*D. eres*). Massee **14** (xvi, 14, 1887); Bucknall **46** (v, 132); *Sphaeria* Berk. in **20**, 245, 1836; Currey **45** (xxii, 274*); Cooke **15**, 881. On *Ulmus*.

— **enteroleuca** (Currey) Sacc. in *Syll.* i, 612 (*D. oncostoma*); *Sphaeria* Currey in **45** (xxii, 275*, 1858), and perhaps in part the following: Berk. **20**, 247, 1836 as *Sphaeria* Fr.; Cooke **15**, 834 as *Valsa*; Massee **14** (xv, 118). On *Robinia*.

Diaporthe eres Nits. Wehmeyer **28** (xvii, 248) and Monog. p. 63; **65** (xxii, 341). Wehmeyer lists 20 host genera for Britain and many synonyms, those for British records being noted herein. The type host is *Ulmus*.

— **eumorpha** (Dur. & Mont.) Maire. Wehmeyer **28** (xvii, 248) and Monog. p. 60. On *Vinca*.

— **Euphorbiae** (Cooke) Cooke in **14** (vii, 82, 1879) (*D. pardalota*); Massee **14** (xvi, 13); Rhodes **108** (1933, 48); *Sphaeria* Cooke in **14** (iii, 67, 1874); Cooke Exs. 674 and ii, No. 238. On *Euphorbia*.

— **exasperans** Nits. (*D. eres*). Rea & Hawley **71** (xxxi, Part 13, p. 7, 1912). On *Betula*, Clare Island.

— **extensa** (Fr.) Sacc. (*D. fibrosa*). Berk. **20**, 247, 1836 as *Sphaeria*; Currey **45** (xxii, 275*); Cooke **15**, 830 as *Valsa*; **14** (xv, 118); var. *Rhamni* also in Berk. **20** and Cooke **15**. On *Rhamnus*. The records on "mountain ash" presumably refer to *D. impulsa*.

— **faginea** (Currey) Sacc. in *Syll.* i, 619 (*D. eres*, first referred to *D. medusaea*); *Sphaeria* Currey in **45** (xxii, 281*, 1858); *Valsa* B. & Br. in **19**, No. 864, 1859; Cooke **15**, 833; **14** (xv, 118). On *Fagus*, Eltham Grove.

— **fibrosa** (Pers. ex Fr.) Nits. in Fuckel. Wehmeyer **28** (xvii, 274) and Monog. p. 173; Berk. **20**, 247, 1836 as *Sphaeria*; Currey **45** (xxii, 273*); Cooke **15**, 831, 1871 as *Valsa*; **14** (xv, 118). On *Rhamnus catharticus*; recorded on *Prunus spinosa* in error.

— **furfuracea** (Fr.) Sacc. (a *Melanconis*?). Berk. **20**, 251, 1836 as *Sphaeria*; Cooke **15**, 832 as *Valsa*; **14** (xv, 118). On *Betula*.

— **fuscidula** (Cooke) Berl. & Vogl. in Sacc. *Addit. I–IV*, 106 (*D. leiphaemia*). *Valsa* Cooke in **14** (xiv, 48, 1885); **14** (xv, 118). On *Quercus*.

— **Garryae** Grove in **27** (lxxi, 255*, 1933). On *Garrya*.

— **glyptica** (Berk. & Currey) Sacc. (*D. tessella*). Massee **14** (xv, 118, 1887) as *Valsa*; Grove **1** (i, 104). On *Salix*. Described **14** (iv, 100, 1876) from North America.

— **Hederae** Wehmeyer in **28** (xvii, 263, 1933) and Monog. p. 186. Type specimen on *Hedera*, Box Hill, Surrey.

— **Hippophaës** Bomm. Rouss. & Sacc. Grove **27** (lxxi, 256, 1933). On *Hippophaë*, Cornwall.

— **ilicina** Cooke in **14** (xviii, 74, 1890) (*D. pardalota*); Sacc. ix, 711; nom. nud. Cooke in Exs. ii, No. 490 and **14** (vii, 81, 1879); Bucknall **46** (iii, 138, 1881); Massee **14** (xvi, 12); Plowr. Exs. iii, No. 40; Vize Exs. 183 and 393. On *Ilex*.

— **importata** Nits. (*D. eres*). Phill. & Plowr. **14** (viii, 107, 1880); Massee **14** (xvi, 14). On *Lycium*.

— **impulsa** (Cooke & Peck) Sacc. Wehmeyer **28** (xvii, 273, 1933), Monog. p. 171. On *Pyrus Aucuparia*, King's Lynn foray, incorrectly listed **28** (xvi, 4) as *D. patria*.

— **inaequalis** (Currey) Nits. in *Pyr. Germ.* p. 285, 1870; Wehmeyer **28** (xvii, 270) and Monog. p. 156; Sacc. i, 663; Cooke & Plowr. **14** (vii, 87, 1879); Bucknall **46** (v, 51, 1886); Massee **14** (xvi, 13); Rhodes **108** (1933, 48); *Sphaeria* Currey in **45** (xxii, 270, 1858); *Diatrype* B. & Br. in **19**, No. 837, 1859; Cooke **15**, 813; Cooke Exs. 372. On *Ulex* and *Cytisus*.

— **incarcerata** (Berk. & Br.) Nits. in *Pyr. Germ.* p. 270 (*D. eres*). Bucknall **46** (iv, 201, 1885); **14** (xvi, 13); Vize Exs. 592; *Diatrype* B. & Br. in **19**, No. 842, 1859; Cooke **15**, 814. On *Rosa*.

— **incrustans** Nits. (*D. eres*). Plowr. **28** (i, 64, 1899). On *Brassica*.

— **inquilina** (Fr.) Nits. (*D. Arctii*). Cooke & Plowr. **14** (vii, 81, 1879); **14** (xvi, 12); Berk. **20**, 276, 1836 as *Sphaeria*; Currey **45** (xxii, 325*); Cooke **15**, 883; Grove **1** (i, 86); Vize Exs. 182; Cooke Exs. ii, No. 491. On *Conium*.

— **insignis** Fuckel (*D. pardalota*). Crossland **35** (1913, 27 and 174). On *Rubus*. See *Apioporthe vepris* above.

— **intermedia** Sacc. (probably *D. Arctii*). Grove **27** (1930, 273). Immature on *Saponaria*, Worcs.

Diaporthe juglandina (Fuckel) Nits. (*D. medusaea*). Massee **14** (xvi, 13, 1887). On *Juglans*.
— **Labiatae** (Cooke) Cooke in **14** (vii, 82, 1879) (*D. Arctii*); *Sphaeria* Cooke in **14** (v, 63, 1876); Sacc. i, 656. On *Prunella*.
— **Laschii** Nits. (*D. eres*). Cooke **14** (iii, 68, 1874); Bucknall **46** (iv, 59, 1883); **14** (xvi, 14); Cooke Exs. 682 and ii, No. 235. On *Euonymus*.
— **leiphaemia** (Fr.) Sacc. Wehmeyer **28** (xvii, 275) and Monog. p. 176; Chesters & Croxall **113** (1937, 152*); Berk. **20**, 250, 1836 as *Sphaeria*; Currey **45** (xxii, 278*); Tul. **114** (ii, 197, 1863) as *Valsa*; Massee **27** (xx, 310); **14** (xv, 118); Cooke Exs. 255 and ii, No. 225; Vize Exs. 165; Currey **45** (xxii, 276*, 1858) and B. & Br. **19**, No. 849* in error as *Sphaeria* (*Valsa*) *taleola*. On *Quercus*.
— **Leycestriae** Grove in **27** (lxviii, 274, 1930). On *Leycesteria*, Cornwall.
— **lirella** (Fr.) Nits. in Fuckel (?*Hypospila*, see Wehmeyer Monog. p. 258). **35** (Sept. 1881); **14** (xvi, 14); **7**, 225; Vize Exs. 593; Cooke Exs. 273 and ii, No. 239; Berk. **20**, 273, 1836 as *Sphaeria*; Cooke **15**, 894; Berk. Exs. 37. On *Spiraea*.
— **Mahoniae** Speg. forma **foliicola** Grove in **27** (lxxi, 256, 1933); Rhodes **108** (1933, 48). On *Mahonia*, Worcs. Wehmeyer places *D. Mahoniae* as a syn. of *D. detrusa*.
— **Malbranchei** Sacc. (*D. eres*). Hawley **28** (viii, 229, 1923). On *Ulmus*, Sussex.
— **medusaea** Nits. Wehmeyer **28** (xvii, 260) and Monog. p. 101. See *D. Ailanthi*, *juglandina*, *rudis* and *viticola*. Massee **14** (xvi, 12) records *D. medusaea* on *Rubus*, doubtless in error. See also *D. faginea*.
— **neglecta** (Duby ex Cooke) Berl. & Vogl. in Sacc. *Addit. I–IV*, 108 (*D. inaequalis*); *Valsa* Duby ex Cooke in **14** (xiv, 47, 1885). On *Genista*.
— **Niesslii** Sacc. (*D. pustulata*). See Appendix I. On *Acer Pseudoplatanus*.
— **nobilis** Sacc. & Speg. Grove **27** (lxxi, 256, 1933). On *Laurus*, Cornwall.
— **nucleata** (Currey) Cooke in **14** (vii, 81, 1879) (*D. eres*); Stevenson **13**, 373, 1879; Sacc. i, 617; *Sphaeria* Currey in **45** (xxii, 270*, 1858); *Diatrype* B. & Br. in **19**, No. 833, 1859; Cooke **15**, 815; **14** (xv, 69); Cooke Exs. 455 and ii, No. 671. On *Ulex*.
— **obscurans** Sacc. (*D. eres*). Phill. & Plowr. **14** (xiii, 77, 1885); **14** (xvi, 13). On *Fraxinus*, Scotland.
— **obsoleta** Sacc. Phill. & Plowr. **14** (vi, 26, 1877); **14** (vii, 82; xvi, 13). On *Hypericum*, Shrewsbury.
— **occulta** (Fuckel) Nits. (*D. eres*). Massee **14** (xvi, 12); Cooke **14** (iii, 68, 1874) as *Sphaeria*; Cooke Exs. ii, No. 236. On scales of *Pinus*; see Hahn **28** (xv, 48).
— **oncostoma** (Duby) Fuckel. Wehmeyer **28** (xvii, 267) and Monog. p. 141; Cooke Exs. ii, No. 240; Cooke **15**, 834, 1871 as *Valsa*; Massee **14** (xv, 118). On *Robinia*.
— **ophites** Sacc. (*D. eres*). Cooke **14** (xiii, 99, 1885); **14** (xvi, 14). On *Hibiscus*, Kew.
— **Orobanches** Berl. Grove **27** (lxxi, 257, 1933). On *Orobanche*, Wilts.
— **orthoceras** (Fr.) Nits. Cooke **14** (v, 64, 1876); **14** (vii, 82; xvi, 12); Vize Exs. 192; Cooke Exs. ii, No. 500. "On *Achillea* etc." (Wehmeyer places *D. orthoceras* on *Achillea* as *D. Arctii* var. *Achilleae*). Rhodes **108** (1933, 49) records *D. orthoceras* on *Tanacetum*.
[— **Padi** Otth. See *D. decorticans*.]
— **pardalota** (Mont.) Nits. in Fuckel. Wehmeyer **28** (xvii, 245) and Monog. p. 50, 57; Cooke & Plowr. **14** (vii, 82); **14** (xvi, 14); Cooke Exs. ii, No. 687; Berk. **19**, No. 99, 1838 as *Sphaeria*; Currey **45** (xxii, 285); Cooke **15**, 895. On *Convallaria*.
— **patria** Speg. Hawley **28** (viii, 229, 1923). On *Pyrus Aucuparia*. (Either the host or the fungus was misidentified.)
— **perexigua** Sacc. (probably *D. Arctii*). Grove **27** (1930, 295); Rilstone **27** (1935, 102). On *Carlina*, Cornwall.

Diaporthe perniciosa Marchal (*D. eres*). Dorothy M. Cayley **34** (x, 253, 1923, on *Prunus*, probably first British record, xii, 29 on *Pyrus*); **33** (xliii, 417*, saltation; xliv, 350; xlvii, 385; xlviii, 69); **77** (1928–30, ii, 146, on *Juglans*); **78** (1925, 83; 1927, 93); **79** (v, 29; xi, 50; xii, 25); **85** (xxviii, 50; xxxv, 22); **104** (iv, 162; ix, 245; xiii, 144); **24** (xii, 208); **65** (xxx, 339); **66** (ccxxiii B, 121); **28** (x, 101; xii, 70 on *Syringa*); **112**, 203. Commonly reported in recent years.

— **Phillyreae** Cooke in **14** (vii, 81, 1879) (*D. eres*). Sacc. i, 674; Massee **14** (xvi, 13). On *Phillyrea*, Kent.

— **pinophylla** (Plowr. & Phill.) Sacc. in *Syll.* i, 646 (*D. eres*). Massee **14** (xvi, 12); *Sphaeria* Plowr. & Phill. in **14** (iv, 124*, 1876); *Gnomonia* Cooke & Plowr. in **14** (vii, 88, 1879). On leaves of *Pinus sylvestris*.

— **pithya** Sacc. (*D. eres*). M. Wilson, *Forestry Comm. Bull.* 6, 1925. On *Pseudotsuga* and *Abies*.

— **protracta** Nits. (*D. eres*). Phill. & Plowr. **14** (vi, 26, 1877); **14** (vii, 81); **46** (iv, 201); Massee **14** (xvi, 12, "on elm"). On *Acer*.

— **pulchra** (Currey) Sacc. in *Syll.* i, 617; *Sphaeria* Currey in **45** (xxii, 279*, 1858, "perithecia imperfect"); *Valsa* B. & Br. in **19**, No. 858, 1859; Cooke **15**, 832; **14** (xv, 118). Host unknown.

— **pulla** Nits. Wehmeyer **28** (xvii, 262) and Monog. p. 115; Bucknall **46** (iv, 201, 1885); **14** (xvi, 12); Rhodes **108** (1933, 49); Vize Exs. 594; Cooke **15**, 882, 1871 as *Sphaeria spiculosa* var. *pulla*. On *Hedera*.

— **pustulata** (Desm.) Sacc. Wehmeyer **28** (xvii, 269) and Monog. p. 153; Grove **27** (1918, 291); Chesters & Croxall **113** (1937, 152*); Bucknall **46** (iv, 59*, 1883) as *Valsa*; Phill. & Plowr. **14** (xiii, 77); **7**, 223. On *Acer Pseudoplatanus*.

— **putator** Nits. (*D. eres*). Phill. & Plowr. **14** (vi, 26, 1877); **14** (vii, 81; xvi, 14). On *Populus*.

— **quadrinucleata** (Currey) Stevenson in **13**, 374, 1879; Sacc. i, 689 (*D. eres*). Massee **14** (xvi, 14); *Sphaeria* Currey in **45** (xxii, 325*, 1859); Cooke **15**, 887. On *Fraxinus*.

— **Quercus** Fuckel (*D. eres*). Bucknall **46** (v, 127* and 131, 1887). On *Quercus*.

— **resecans** Nits. (*D. eres*). Massee **14** (xvi, 13); **7**, 225; Hawley **28** (viii, 229); Phill. & Plowr. **14** (iv, 124, 1876) as *Sphaeria*; Cooke & Plowr. **14** (vii, 83) as *Valsa*; Cooke Exs. 492 as *V. Syringae*. On *Syringa* and (teste Hawley) on *Forsythia*.

— **retecta** Fuckel & Nits. (*D. eres*). Hawley **28** (viii, 229, 1923). On *Buxus*, Lincs.

— **revellens** Nits. (*D. eres*). Bucknall **46** (v, 47 and 51, 1886); Massee **14** (xvi, 13). On *Corylus*, Bristol.

— **Rhois** Nits. (*D. eres*). *Valsa Rhois* Cooke nom. nud. in Exs. 245 and ii, No. 228. On *Rhus*. See Wehmeyer Monog. pp. 92, 214, and Cooke **15**, 834 in error as *Valsa stilbostoma*.

— **rudis** (Fr.) Nits. (*D. medusaea*). Massee **14** (xvi, 13, 1887); **7**, 225; Rilstone **27** (1935, 102). On *Cytisus Laburnum*.

— **Rumicis** Nits. ex Plowr. nom. nud. in Exs. iii, No. 41 and in **14** (viii, 107, 1880) (*D. Arctii*). On *Rumex*.

— **Ryckholtii** (Westend.) Nits. (*D. eres*). Phill. & Plowr. **14** (vi, 26, 1877); **14** (vii, 81; xvi, 14). On *Symphoricarpos*.

— **samaricola** Phill. & Plowr. in **14** (iii, 126, 1875) (*D. eres*). Sacc. i, 646; **14** (vii, 81; xvi, 12); **7**, 225. On *Fraxinus*.

— **Sarothamni** (Auersw.) Nits. Wehmeyer **28** (xvii, 264) and Monog. p. 120; Phill. & Plowr. **14** (vi, 26, 1877); **14** (vii, 81; xvi, 13); **7**, 225. On *Sarothamnus*.

— **Sarothamni** var. **Dulcamarae** (Nits.) Wehmeyer in **28** (xvii, 264, 1933) and Monog. p. 121; Phill. & Plowr. **14** (vi, 26, 1877) as *D. Dulcamarae*; **14** (vii, 82; xvi, 13); **27** (1935, 103). On *Solanum Dulcamara*.

— **scandens** Sacc. & Speg. (*D. Arctii*). Grove **27** (lxviii, 70, 1930). On *Tamus*, Worcs.

Diaporthe scobina Nits. (*D. eres*). Cooke **14** (VII, 81); Massee **14** (XVI, 14); **7**, 225; **65** (XXXII, 341); Cooke **14** (III, 67, 1874) as *Sphaeria*; Cooke Exs. 673 and II, No. 237; Vize Exs. 194. On *Fraxinus*.

— **Skimmiae** Grove in **27** (LXXII, 257, 1933). On *Skimmia*.

— **Sorbariae** Nits. (*D. eres*). Rilstone **27** (1935, 103). On *Spiraea*, Cornwall.

— **sorbicola** (Nits.) Bref. (*D. impulsa*). Rhodes **108** (1933, 49). On *Pyrus Aucuparia*.

— **spiculosa** ([Alb. & Schw.]) Nits. Wehmeyer **28** (XVII, 261) and Monog. p. 110; Massee **14** (XVI, 12); Berk. **20**, 245, 1836 as *Sphaeria* (doubtful); Currey **45** (XXII, 274*, 1858); Cooke **15**, 882. On *Sambucus*. There is uncertainty about the correct name, since *Sphaeria spiculosa* Pers. ex Fr. is not the same.

— **stictostoma** (Ellis) Sacc. (the type specimen is a *Cryptosporella*). Grove **27** (LIV, 185*, 1916). On *Pyrus*.

— **striaeformis** (Fr.) Nits. (*D. pardalota*). Massee **14** (XVI, 14); **7**, 225; Berk. **20**, 256 as *Sphaeria*; Cooke **15**, 808 as *Dothidea*; Cooke Exs. II, No. 686 as *Diaporthe Epilobii*; **14** (VII, 82; XVI, 14); Bucknall **46** (V, 132); Vize Exs. 591; Cooke **14** (V, 63) as *Sphaeria Epilobii*. On *Epilobium*.

— **strumella** (Fr.) Fuckel. Wehmeyer **28** (XVII, 272) and Monog. p. 168; Berk. **20**, 244, 1836 as *Sphaeria*; Currey **45** (XXII, 272*); Cooke **15**, 814, 1871 as *Diatrype*; **14** (XV, 69); Vize Exs. 157; Cooke Exs. 236 and II, No. 670. On *Ribes*.

— **syngenesia** (Fr.) Fuckel. Wehmeyer **28** (XVII, 271) and Monog. p. 167; Currey **45** (XXII, 275*, 1858) as *Sphaeria*; Cooke **27** (IV, 99) as *Diatrype*, host said to be "elder"; Massee **14** (XV, 71 and 118) p.p. as *Valsa*; Cooke **15**, 816 as *Diatrype Frangulae*. On *Rhamnus Frangula*. See *Peroneutypa heteracantha*.

— **taleola** (Fr.) Sacc. Wehmeyer **28** (XVII, 278) and Monog. p. 181; **89**, 211*; Chesters **113** (1936, 130*); Berk. **20**, 249, 1836 as *Sphaeria*; Cooke **15**, 835 as *Valsa*; **14** (XV, 118); Cooke Exs. II, No. 231; Tul. **114** (II, 168, 1863) as *Aglaospora*; *Diatrype sordida* B. & Br. in **19**, No. 838; Currey **66** (CXLVII, 550*, 1857) and **45** (XXII, 276*) in error as *Sphaeria angulata*, corrected **45** (XXV, 246). On *Quercus*.

— **tamaricina** Sacc. & Flag. Grove **1** (I, 229, 1935). On *Tamarix*, Cornwall. Perithecial material in W. B. Grove's Herbarium.

— **tessella** (Pers. ex Fr.) Rehm. Wehmeyer **28** (XVII, 277) and Monog. p. 179; Grove **27** (XXIII, 132*, 1885); Massee **14** (XV, 70) as *Valsa*. On *Salix*.

— **tessera** (Fr.) Fuckel (*D. decedens*). Massee **14** (XV, 118, 1887) as *Valsa*, probably in error since he lists *Salix* as host.

— **tortuosa** (Fr.) Sacc. (*D. spiculosa*). Massee **14** (XV, 118, 1887) as *Valsa*. "On branches." A doubtful record.

— **Tulasnei** Nits. (*D. Arctii*). Bucknall **46** (V, 127* and 131, 1887); **14** (XVI, 13); Grove **27** (L, 48, 1912). On *Urtica*, etc.

— **varians** (Currey) Sacc. in *Syll.* I, 614; Wehmeyer **28** (XVII, 270) and Monog. p. 156; *Sphaeria* Currey in **45** (XXII, 270*, 1858); *Diatrype* B. & Br. in **19**, No. 834, 1859; Cooke **15**, 813; Massee **14** (XV, 69). On *Acer campestris*.

— **velata** (Pers. ex Fr.) Nits. (*D. eres*). Massee **14** (XVI, 14); Sowerby **42**, t. 372, 1802 as *Sphaeria*; Berk. **20**, 246, 1836 and **19**, No. 19, 1837; Currey **45** (XXII, 273*); Cooke **15**, 880. On *Tilia*.

— **Veronicae** Rehm (*D. eres*). Grove **27** (1933, 258); Rilstone **27** (1935, 103). On *Veronica*.

— **Vincae** (Cooke). Cooke in **14** (VII, 82, 1879) (*D. eumorpha*). Sacc. I, 656; Massee **14** (XVI, 13); *Sphaeria* Cooke in **14** (V, 63, 1876) and Exs. II, No. 493; Vize Exs. 293. On *Vinca*.

— **viridarii** Sacc. (*D. eres*). Cooke **14** (XIV, 7, 1885); Rilstone **27** (1935, 102). On *Prunus Laurocerasus*.

— **viticola** Nits. (*D. medusaea*). Rilstone **27** (1935, 103). On *Vitis*, Cornwall.

Didymella applanata (Niessl) Sacc. in *Syll.* I, 546; **23** (XIV, 163); **71** (XLII, 50); **77** (1925, 82; 1926–7, 84; 1932, 84); **79** (II, 18 and 31; XI, 53); **85** (XXII, 474); **93**, 160; *Didymosphaeria* Niessl in **105** (1875, 149); *Sphaeria* Phill. & Plowr. in **14** (III, 126, 1875); Cooke **14** (V, 63); Plowr. Exs. II, No. 84 (apparently

type collection); *Endophlaea* Cooke in **14** (XVII, 88; XVIII, 11). On *Rubus*. Niessl did not give a locality, but evidently Plowright sent him specimens. See Petrak **102** (1923, 19) re *Didymella*.

Didymella Bryoniae (Fuckel) Rehm. Massee **14** (XVIII, 41); Cooke **14** (III, 68, 1874) as *Sphaeria*; **14** (VI, 27; VII, 87); Plowr. Exs. III, No. 64; Vize Exs. 193; Cooke Exs. II, No. 575. On *Bryonia*.

— **caulicola** (Moug.) Sacc. Grove **27** (LXXI, 254, 1933), says it is an immature state of *Mycosphaerella sagedioides*, q.v. On *Dipsacus*, Evesham.

— **commanipula** (Berk. & Br.) Sacc. in *Syll.* I, 556; Massee **14** (XVIII, 41, 1885); *Sphaeria* B. & Br. in **19**, No. 645*, 1852; Cooke **15**, 908; Stevenson **13**, 404; Corner **28** (XIX, 284) as *Didymosphaeria*. On capsules of *Scrophularia*.

— **Corni** ([Sowerby]) Sacc. in *Syll.* I, 547; Rhodes **108** (1933, 48); *Sphaeria* Sowerby in **42** t. 370, 1802; Berk. **20**, 276, 1836; *Endophlaea* Cooke in **14** (XVII, 88; XVIII, 18); Cooke **15**, 909, 1871 as *S. Corni-sueciae* (but Currey **45**, XXII, 330, found Fries *Scl. Suec.* to be pycnidial). On *Cornus*. Fries thought *Sphaeria Corni* Sow. to be the same as *S. saepincola* Fr. B. & Br. **19**, No. 636 found no asci in Sowerby's specimen.

— **Cortadeniae** Grove in **27** (LX, 172, 1922). On *Cortadenia*, Ayrshire.

— **culmigena** Sacc. forma **endorhodia** Grove in **27** (LX, 172, 1922). On *Cynosurus*, Birmingham.

— **epipolytropa** (Mudd) Berl. & Vogl. Massee **14** (XVIII, 41, 1889); A. Lorrain Smith **28** (III, 176) as *Didymosphaeria*. On lichens. See Kiessler **119**, 453.

— **hyphenis** (Cooke) Sacc. in *Mich.* II, 316; *Syll.* I, 560; Massee **14** (XVIII, 41); Grove **27** (1922, 144); *Sphaeria* Cooke in **15**, 895, 1871. On *Pteridium*.

— **hyporrhodia** Sacc. Grove **48** (XX, 142, 1911); **28** (III, 367). On Umbelliferae, Ireland.

— **Lycopersici** Klebahn. Pethybridge **22** (Misc. Publ. 70, p. 55, 1929); Small **82** (1925, 1926, 1927 as *Diplodina*); **112**, 188; **93**, 92 and 104; first reported under the name *Mycosphaerella citrullina* in **37** (1909, 293); **23** (XVI, 580, 1909); **32** (XII, 13, 1913). On *Lycopersicum*, *Capsicum*, and *Cucumis*. We have no record of perithecia.

— **nigrella** (Fr.) Sacc. B. & Br. **19**, No. 649, 1852 as *Sphaeria*; Currey **45** (XXII, 331*); Cooke **15**, 907; Cooke Exs. 393. On *Angelica*. See *Leptosphaeria nigrella*.

— **planiuscula** (Berk. & Br.) Sacc. in *Syll.* I, 553; Massee **14** (XVIII, 40); *Sphaeria* B. & Br. in **19**, No. 891*, 1859; Cooke **15**, 908; Bucknall **46** (II, 350); on herbs. Massee **14** (XVIII, 58) compiled this in error as *Heptameria*.

— **proximella** (Karst.) Sacc. Phill. & Plowr. **14** (XIII, 76); Stevenson **40** (VII, 114, 1884) as *Sphaerella*. On *Carex*.

— **refracta** (Cooke) Sacc. in *Syll.* I, 560; Massee **14** (XVIII, 41); *Sphaeria* Cooke in **14** (V, 119, 1877; VII, 87). On *Scirpus*.

— **rubitingens** Bloxam ex Cooke in **14** (XX, 82, 1892); Sacc. XI, 302. On herbaceous stems, Gopsall.

— **Salicis** Grove in Sacc. *Addit. I–IV*, 86 and IX, 667. On *Salix* near Birmingham. Von Höhnel considers it *Diaporthe* [*Cryptodiaporthe*] *salicella*.

— **sepincoliformis** (de Not.) Sacc. Bucknall **46** (V, 58*, 1886); **46** (IV, 202, 1885) as *Sphaeria*. On *Rosa*, near Bristol.

— **superflua** (Fuckel) Sacc. Massee **14** (XVIII, 40, 1889); Cooke **15**, 907, 1871 as *Sphaeria*; Bucknall **46** (II, 350, 1879); Plowr. Exs. II, No. 83. On *Urtica*.

— **tosta** (Berk. & Br.) Sacc. in *Syll.* I, 556; Massee **14** (XVIII, 40); *Sphaeria* B. & Br. in **19**, No. 648*, 1852; Cooke **15**, 908; Bucknall **46** (III, 70); Cooke Exs. 266? and II, No. 250. On *Epilobium*. Saccardo placed Plowr. Exs. II, No. 82 (issued as *Sphaeria tritorulosa*) as *D. Fuckeliana*, apparently a syn. of *D. tosta*. See von Höhnel, *Frag. Myc.* 1033.

Didymellina Dianthi C. C. Burt in **28** (XX, 214, 1936). On *Dianthus barbatus*, Scotland. The perfect state of *Heterosporium echinulatum*.

— **Iridis** (Desm.) von Höhnel. Phill. & Plowr. **14** (II, 188, 1874) as *Sphaerella* Auersw.; **14** (VII, 88); Plowr. Exs. II, No. 91. On *Iris*. This is the type species of *Didymellina*. Petrak considered it a *Mycosphaerella*.

[**Didymellina macrospora** Kleb. Only the conidial state, *Heterosporium gracile* Sacc., known in Britain. See Moore, *Diseases of Bulbs*, 1939; **112**, 189.]

Eriosphaeria inaequalis Grove in Sacc. *Addit. I–IV*, 103, 1886 and **27** (XXIV, 132, 1886) [with *Gonytrichum caesium*]; Sacc. IX, 697; *Lasiosphaeria* Cooke in **14** (XV, 125); Massee **14** (XVI, 37). On wood, Worcs. Von Höhnel **102** (1919, 121) proposed the genus *Melanopsammella* for this species.

— **investans** (Cooke) Sacc. in *Syll.* I, 598; *Sphaeria* Cooke in **15**, 855, 1871; *Byssosphaeria* Cooke in **14** (XV, 123, 1887); Massee **14** (XVI, 35); *Trichosphaeria* Lindau in *Natur. Pflanz.-Fam.* 1897, where *Eriosphaeria* is treated as a subgenus of *Trichosphaeria*. On branches, Surrey.

— **membranacea** (Berk. & Br.) Sacc. in *Syll.* I, 598; *Sphaeria* B. & Br. in **19**, No. 1493*, 1875; *Lasiosphaeria* Cooke & Plowr. in **14** (VII, 85, 1879); Massee **14** (XVI, 37); **7**, 227. On wood, Langridge.

Gibbera Vaccini (Sowerby ex Fr.) Fr. gen.nov. in *Summa*, p. 402; Cooke **15**, 843*, 1871; Sacc. I, 600; Massee **14** (XVI, 34); **37** (1909, 375, "on *Genista*"); Plowr. Exs. III, No. 26; *Sphaeria* Sowerby in **42**, t. 373, 1802; Berk. **20**, 254; Currey **45** (XXII, 319*). On *Vaccinium*.

[**Gnomonia Ariae** (DC.) Fuckel. Massee **14** (XVII, 75); **7**, 233; Cooke **15**, 911, 1871 as *Sphaeria*, "specimens immature". On *Pyrus Aria*. This name is given in Oudem. *Enumerat.* III, 503 as a syn. of *Graphiothecium parasiticum* Sacc.]

Gnomonia campylostyla Auersw. Massee **14** (XVII, 74, 1889) as *G.* "*Campylostoma*". On leaves of *Betula*.

— **cerastis** (Riess) Ces. & de Not. Crossland **35** (1913, 175); Hawley **28** (IX, 239, 1924). On peduncles of *Acer*. Auerswald cites Cooke Exs. 162, issued as *G. petioli*.

— **curvirostra** (Sowerby ex Fr.) Sacc. in *Syll.* I, 570; Massee **14** (XVII, 75); *Sphaeria* Sowerby in **42**, t. 373, 1802; Cooke **15**, 907. On some member of the Umbelliferae.

— **errabunda** (Rob. in Desm.) Auersw. Bucknall **46** (III, 70, 1880) as *Sphaerella*. On *Betula*, Bristol.

— **erythrostoma** (Pers. ex Fr.) Auersw. Carruthers **56** (XXV, 313*, 1900); **56** (XXVII, 1140); **63** (LXII, 241, 1901); **23** (XIV, 334; XVII, 895; XXXI, 361); Brooks **33** (XXIV, 585, development); **33** (XXXVI, 762); **27** (XLVI, 96); **5**, 199*; **77** (1924, 114); **79** (II, 31; V, 26; XI, 31); **85** (XV, 221*; XVI, 286; XXV, 147); **89**, 130*; **93**, 130; **112**, 197. On *Prunus*.

— **Graphis** Fuckel. Massee **14** (XVII, 75); Plowr. Exs. III, No. 89; Cooke **14** (V, 64, 1876) as *Sphaeria*. On *Rubus*.

— **herbicola** A. L. Smith in **28** (III, 221, 1910); Sacc. XXII, 302; **115**, 38. On *Epilobium*.

— **inclinata** (Desm.) Auersw. Massee **14** (XVII, 74, 1889); Hawley **28** (IX, 239); Cooke **15**, 911, 1871 as *Sphaeria setacea* var. *epiphyllae*; Plowr. Exs. I, No. 95. On *Acer*, *Aesculus*, etc.

— **leptostyla** (Fr.) Ces. & de Not. Wormald **77** (1924, 117, 1925); Hamond **77** (1928–30, II, 145, perithecia); Rhodes **108** (1933, 48). On *Juglans*.

— **Needhami** Massee & Crossl. in **35** (1904, 3); **7**, 233; Sacc. XVII, 666. On leaves of *Abies*.

— **petiolicola** (Fuckel) Karst. Massee **14** (XVII, 74); Cooke **27** (IV, 103*, 1866) as "*Sphaeria petioli* Fuckel"; 15, 911, as *S. setacea* var. *petiolae*; Plowr. Exs. I, No. 94. On petioles. See *G. cerastis*.

— **rostellata** (Fr.) Brefeld. Wehmeyer Monog. *Diaporthe* p. 266; Berk. **20**, 267, 1836 as *Sphaeria*; Cooke **15**, 907; Massee **14**, **60** (1880, 84*); (XVI, 13) as *Diaporthe*. On *Rosa* and *Rubus*. See *Apioporthe vepris*.

— **Rubi** (Rehm) Wint. Wormald **85** (XXII, 478, 1913); Dowson **56** (L, 55*, 1925); **31** (LXXXVI, 374); **93**, 201; **112**, 199. On *Rubus* and *Rosa*.

— **setacea** (Pers. ex Fr.) Ces. & de Not. Massee **14** (XVII, 74); **7**, 233; Cooke Exs. 161 and II, No. 280; Berk. **20**, 277, 1836 as *Sphaeria*; Currey **45** (XXII, 333*); Cooke **15**, 911 (with vars., see *G. inclinata* and *G. petiolicola* above); Berk. Exs. 184; Vize Exs. 190. On leaves.

Gnomonia suspecta (Fuckel) Sacc. Massee **14** (xvii, 74, 1889). On *Quercus* and *Fagus*.

— **veneta** (Sacc. & Speg.) Kleb. **65** (xxx, 349); Cooke **14** (xvi, 77, 1888) as *Sphaerella*; Massee **14** (xix, 13) as *Laestadia*. On *Platanus*. *G. veneta* Speg. is an earlier name for a fungus on *Ostrya*, so this well-known *Gnomonia* on *Platanus* requires to be renamed.

Hercospora Tiliae (Pers. ex Fr.) Fr. emend. Tul. Cooke **15**, 833, 1871 as *Valsa*; Bucknall **46** (iv, 591); **7**, 233; Cooke Exs. 378 and ii, No. 226; Plowr. Exs. i, No. 51; Vize Exs. 166; Massee **14** (xv, 119) as *Melanconis*. Cooke cites as syn. *Sphaeria tiliaginea* Currey in **66** (cxlvii, 545*, 1857), *Valsa* B. & Br. in **19**, No. 865, 1859, but Grove **1** (ii, 263) places Currey's fungus as *Naemospora Tiliae* Delacr. On *Tilia*.

Lentomita ligneola (Berk. & Br.) Sacc. in *Syll.* i, 585; *Sphaeria* B. & Br. in **19**, No. 883*, 1859; Cooke **15**, 876; Bucknall **46** (ii, 349); Plowr. Exs. iii, No. 55; *Ceratostomella* Cooke in **14** (xvii, 49, 1889); Massee **14** (xvii, 73). On *Acer platanoides*. The same fungus has the later name *Ceratostomella ampullasca*, and some British specimens of the same fungus are referred to the earlier *C. rostrata*.

— **stylophora** (Berk. & Br.) Sacc. in *Syll.* i, 586; *Sphaeria* B. & Br. in **19**, No. 976*, 1861; Cooke **15**, 877; *Ceratostoma* Stevenson in **13**, 385; *Ceratostomella* Cooke in **14** (xvii, 49, 1889); Massee **14** (xvii, 73). On *Acer platanoides*.

Melanconis Aceris Phill. & Plowr. in **14** (xiii, 76, 1885); Sacc. *Addit. I–IV*, 104; Grove **27** (xxiii, 132*, 1885). On *Acer*.

— **Alni** Tul. Tul. **114** (ii, 123, 1863); Cooke **15**, 818; Massee **14** (xv, 119); **7**, 224; Cooke Exs. 369 and ii, No. 481; Vize Exs. 281; Plowr. Exs. ii, No. 23; "*Sphaeria thelebola*" in **45** (xxii, 280*, 1858). On *Alnus*.

— **hyperopta** (Nits.) Wehmeyer in Monog. *Diaporthe*, p. 254. Rhodes **108** (1933, 48) as *Diaporthe carpinicola* Fuckel. On *Carpinus*.

— **modonia** Tul. in *Comp. Rend.* 1856; **114** (ii, 141); Cooke **14** (iii, 67, 1874); Massee **14** (xv, 119); Cooke Exs. 681 and ii, No. 482; Plowr. Exs. ii, No. 26; Vize Exs. 282; *Sphaeria biconica* Currey in **45** (xxii, 279*, 1858); *Valsa biconica* B. & Br. in **19**, No. 857, 1859; Cooke **15**, 832; **14** (xx, 82); *Diaporthe biconica* Sacc. in *Syll.* xi, 310; see Wehmeyer **28** (xvii, 295). On *Castanea*.

— **stilbostoma** (Fr.) Tul. Tul. **114** (ii, 119, 1863); Cooke **15**, 818*; **14** (xv, 119); Chesters **113** (1938, 179*); Plowr. Exs. i, No. 40; Cooke Exs. 486 and ii, No. 669; Currey **45** (xxii, 278*, 1858) as *Sphaeria*; *S. pulchella* Currey in **45** (xxii, 280) teste Tul.; *Valsa Bloxami* Cooke in **14** (xiv, 47, 1885); **14** (xv, 118); *Diaporthe Bloxami* Berl. & Vogl. in Sacc. *Addit. I–IV*, 105 and ix, 702; see Wehmeyer Monog. *Diaporthe*, p. 248. On branches.

— **sulfurea** (Fuckel) Petrak. Wehmeyer Monog. *Diaporthe*, p. 251, 268; *Valsa olviaestroma* Cooke in **14** (xiv, 48, 1885); **14** (xv, 118); compiled as "*Diaporthe elaeostroma*" Berl. & Vogl. in Sacc. *Addit. I–IV*, 107. On *Corylus* (teste Wehmeyer), Jedburgh.

— **thelebola** (Fr.) Sacc. Massee **14** (xv, 119); Currey **45** (xxii, 280*, 1858) as *Sphaeria*; Cooke **27** (iv, 100*, 1866) as *Valsa*; **15**, 835; Vize Exs. 168. On *Alnus*.

— **xanthostroma** (Mont.) Schroet. Wehmeyer Monog. *Diaporthe*, p. 247; Berk. **19**, No. 22, 1837 as *Sphaeria*; Currey **45** (xxii, 280*); Berk. Exs. 296; B. & Br. **19**, No. 861*, 1859 as *Valsa chrysostroma*; Cooke **15**, 819 as *Melanconis chrysostroma*; Massee **14** (xv, 119); *Valsa bitorulosa* B. & Br. in **19**, No. 861*, 1859; Cooke **15**, 832; Massee **14** (xv, 117 as "*tritorulosa*" in error); *Diaporthe bitorulosa* Sacc. in *Syll.* i, 608. On *Carpinus*.

Melanopsamma borealis Karst. var. **minor** (Cooke) Sacc. in *Syll.* ix, 686; *Conisphaeria borealis* (Karst.) Cooke in **14** (xvi, 87), var. *minor* Cooke in **14** (xvii, 79, 1889). On wood, Surrey.

— **pomiformis** (Pers. ex Fr.) Sacc. Berk. **20**, 264, 1836 as *Sphaeria*; Cooke **15**, 862; B. & Br. **19**, No. 1333*, 1871; Plowr. Exs. i, No. 68; *Psilosphaeria* Cooke in **14** (xvi, 50); Massee **14** (xvi, 117); *Sphaeria corona* Sowerby in **42**, t. 393, 1803. On wood. See *Calyculosphaeria collapsa*.

Melanopsamma pustula (Currey) Sacc. in *Mich.* I, 347; *Syll.* I, 576; *Sphaeria* Currey in **45** (XXII, 317*, 1859); *Psilosphaeria* Cooke in **14** (XVI, 50); *Sphaeria perexigua* Curr. apud Berk. nom. nud. in **18**, 396; Cooke **15**, 863. On wood.

— **Ruborum** (Lib.) Sacc. Cooke **27** (IV, 102, 1866) as *Sphaeria*; Cooke **15**, 863; Cooke Exs. 385; Plowr. Exs. II, No. 53; *Lasiosphaeria* Stevenson in **13**, 391; *Sphaeria rubicola* Currey in **45** (XXII, 315*, 1859). On *Rubus*.

Mycosphaerella (**Sphaerella**). Although we believe *Sphaerella* should, if possible, be conserved against *Mycosphaerella*, we have attempted to list the correct citations of authors under *Mycosphaerella* for species recorded from Britain. This effort has taken much time without providing any assurance that all citations are correct, and for thirteen species no transfer to *Mycosphaerella* was found. The arguments for conservation of *Sphaerella*, and the references to literature are presented in *Trans. Brit. mycol. Soc.* XXIII, 220, 1939. The transfers by Vestergren are in *Bih. K. Svenska Vet. Akad. Handl. Stockholm*, XXII, Afd. iii, No. 6 (1896). The page references for transfers from *Sphaerella* to *Mycosphaerella* are given here, since these may be found convenient.

— **allicina** (Fr.) Vestergren 1896, p. 15; *Sphaerella* Auersw. 1869; Cooke **15**, 920, 1871; Massee **14** (XIX, 43). On *Allium*, Shere.

— **aquilina** (Fr.) Schroet. 1894, p. 341; *Sphaerella* Auersw. 1869; Massee **14** (XIX, 43, 1890), on *Pteridium*, Darenth; **65** (XXX, 347, 1931) on *Polypodium*, Scotland. Saccardo (*Syll.* II, 82) placed this name as a doubtful synonym of *Leptosphaeria aquilina* Pass. See also *M. Pteridis*.

— **Ascophylli** Cotton in **28** (III, 95*, 1909); **71** (XXXI, 16, 1912); *Sphaerella* Sacc. & Trott. in *Syll.* XXII, 147, 1913. Common on *Ascophyllum nodosum*. First noted by Church **33** (VII, 399, 1893), with a brief description but no specific name.

— **atomus** (Desm.) Oudem. 1897, p. 209 (attributed to "Johanson"); *Sphaerella* Cooke in **14** (III, 69, 1874); **14**, (VII, 88; XIX, 44); Cooke Exs. 689. On leaves of *Fagus*.

— **brassicicola** (Duby) Oudem. 1897, p. 210 (attributed to "Johanson"); Grove **56** (XL, 76*); **65** (XXX, 342); **79** (I, 18 and 29; III, 5; IV, 5; V, 25; VII, 17 and 35; VIII, 10; XI, 44; XII, 28); **112**, 120; **85** (XXII, 455*; XXXIII, 19); *Sphaerella* Ces. & de Not. 1863; Cooke **27** (IV, 251*, 1866); **15**, 920; **23** (XV, 279 and 441); **56** (XXVII, 805); **89**, 82*; **14** (XIX, 42); Vize Exs. 397; Plowr. Exs. III, No. 94; first British record apparently as *Sphaeria Brassicae* (Chev.) B. & Br. in **19**, No. 656*, 1852. Common on Cruciferae.

— **carinthiaca** Jaap in **102** (VI, 210, 1908); Kathleen Sampson **26**A (Ser. 2, No. 1, 1922) in Wales; **22** (Misc. Publ. 52, p. 38, 1926) in southern England; **71** (XLII, 50, 1934) in Ireland; *Sphaerella* Sacc. & Trott. in *Syll.* XXII, 128. On *Trifolium*.

— **chlouna** (Cooke) Lindau 1897, p. 426 (spelt "*chlorina*"); *Sphaerella* Cooke in **14** (V, 127, 1877); Sacc. I, 525; **14** (VII, 88; XIX, 43). A note by the collector (Dr Capron) on the type reads "I think a garden variety of *Phalaris arundinacea*", Shere.

— **clymenia** (Sacc.) Oudem. 1897, p. 217 (attributed to "Johanson"); Grove **27** (LXVIII, 69, 1930) as *M. clymenia* "Johans. & Magn."; **70** (XXII, 397). On *Lonicera*, Scotland and Ireland.

— **conglomerata** (Wallr.) Lindau 1897, p. 434; *Sphaerella* [Rabenh. 1860, *Fungi Europ.* No. 150] Auersw. 1869, p. 5; Cooke **15**, 914, 1871 and Exs. No. 500. On leaves of *Alnus*.

— **Crataegi** (Fuckel) Oudem. 1897, p. 215 (attributed to "Johanson"); *Sphaerella* Fuckel, *Fung. Rhen.* No. 2162; Cooke **15**, 913, 1871; Massee **14** (XIX, 14); Plowr. Exs. III, No. 96. On leaves of *Crataegus*.

— **cruciferarum** (Fr.) Lindau 1897, p. 424; *Sphaerella* Sacc. 1877; Berk. **19**, No. 191, 1841 as *Sphaeria*; Cooke **15**, 907. On *Erysimum*.

— **Cydoniae** Grove in **27** (LVI, 285*, 1918). On leaves of *Cydonia vulgaris*, Hereford.

— **depazeiformis** (Auersw.) Lindau 1903, p. 72; Muskett *et al.* **71** (XLII, 49, 1934). On *Oxalis acetosella*, Ireland.

Mycosphaerella Eryngii (Fr.) Oudem. 1897, p. 213 (attributed to "Johanson"); *Sphaerella* Cooke in **27** (IV, 249*, 1866); **15**, 917; B. & Br. **19**, No. 657, 1852 as *Sphaeria*. On *Eryngium*.

— **Fagi** (Auersw.) Lindau 1897, p. 424; *Sphaerella* Auersw. 1869, p. 6; Bucknall **46** (V, 54, 1886); Massee **14** (XIX, 13); Cooke Exs. 203 and II, No. 263. On *Fagus*.

— **filicum** (Desm.) Starb. 1889, p. 9; Rhodes **108** (1933, 48); *Sphaerella* Auersw. 1869; Massee **14** (XIX, 43); Plowr. Exs. III, No. 99; Phill. & Plowr. **14** (VIII, 109, 1880) as *Sphaeria* and (teste Oudem. *Enumeratio* I, 306) *Mollisia filicum* Phill. in **11**, 191. On *Dryopteris*.

— **Fragariae** (Tul.) Lindau 1897, p. 424; **85** (XXXIII, 21); **79** (I, 12 and 30; V, 26; VII, 18; IX, 24; XI, 53); **24** (XII, 207); **65** (XXX, 340); **112** 179; *Sphaerella* Sacc. 1882; **23** (V, 199, 1898; XI, 641; XIII, 498; XVII, 476); **56** (XXV, p. XXXV); **5**, 194*; **89**, 150*. On *Fragaria*.

— **hedericola** (Desm.) Lindau 1897, p. 424; *Sphaerella* Cooke in **14** (III, 69, 1874); **14** (VII, 88; XIX, 13); Vize Exs. 298. On *Hedera*.

— **idaeina** (Hazsl.) Ramsb. Recorded **28** (XXII, 10, 1938) from Killarney, 1936 Foray, as *M.* "*idaeina* (Hazsl.)". So far as we know, this is a comb.nov.

— **innumerella** (Karst.) Starb. 1889, p. 9; *Sphaerella* Karst. 1870 (*Fungi Fenn.* 965); Phill. & Plowr. **14** (VIII, 109, 1880); Massee **14** (XIX, 42); Stevenson **40** (VII, 114); Plowr. Exs. III, No. 98. On *Potentilla*.

[— **Iridis** (Auersw.) Schroet. 1894, p. 339; *Sphaerella* Auersw. 1869. See *Didymellina*.]

— **isariophora** (Desm.) Johanson 1884, p. 165; **71** (XLII, 49, 1934); *Sphaerella* Ces. & de Not. 1863; Cooke **27** (IV, 104*, 1866); **15**, 918; **14** (XIX, 43); **56** (XXVI, 655); Plowr. Exs. I, No. 97; Vize Exs. 97; Cooke Exs. 167 and II, No. 266. On *Stellaria*.

— **latebrosa** (Cooke) Schroet. 1894, p. 324; *Sphaerella* Cooke in **27** (IV, 248*, 1866); Sacc. I, 482; **15**, 915; **14** (XIX, 13); Bucknall **46** (III, 70). On *Acer Pseudoplatanus*.

— **Ligustri** (Rob. in Desm.) Lindau 1897, p. 424; *Sphaerella* Cooke in **27** (IV, 249*, 1866); **15**, 917; **14** (XIX, 13); Cooke Exs. 691. On *Ligustrum*.

— **lineolata** (Rob. & Desm.) Schroet. 1894, p. 339; *Sphaerella* Ces. & de Not. 1863; Cooke **27** (IV, 252*, 1866); **15**, 921; B. & Br. **19**, No. 616, 1852 as *Sphaeria*. On *Ammophila*.

— **maculiformis** (Pers. ex Fr.) Schroet. 1894, p. 333; Hawley **28** (IX, 239); *Sphaerella* Cooke in **27** (IV, 245* and 242, 1866, with var. *aequalis*); **15**, 912; **14** (XIX, 13); Cooke Exs. 170 and II, Nos. 273–276; Vize Exs. 400; Plowr. Exs. II, No. 87; Sowerby **42**, t. 370, 1802 as *Sphaeria*; Johnston **58**, 129, 1831; Berk. **20**, 278; **18**, 401; Berk. Exs. No. 338. On leaves. See *Sphaerella arcana* below.

— **microspila** (Berk. & Br.) Lind in *Danish Fungi* 1912, p. 208; *Sphaerella* Cooke in **27** (IV, 251*, 1866); Sacc. I, 503; **15**, 919; Vize Exs. 398; *Sphaeria* B. & Br. in **19**, No. 984*, 1861; transferred to *Stigmatea* by Niessl and to *Venturia* by Winter. On *Epilobium*.

— **millegrana** (Cooke) Schroet. 1894, p. 334; *Sphaerella* Cooke in **27** (IV, 247*, 1866); Auersw. 1869, p. 8*; Sacc. I, 485; **15**, 915; **14** (XIX, 14). On *Carpinus*.

— **oedema** (Fr.) Schroet. 1894, p. 335; *Sphaerella* Fuckel in *Symb. Myc.* 1869, p. 104; Massee **14** (XIX, 42); Cooke Exs. No. 692 and II, No. 261. On *Ulmus*.

— **Pelvetiae** Sutherland in **32** (XIX, 34*, 1915); *Sphaerella* Trotter in *Syll.* XXIV, 849, 1928. On *Pelvetia*.

— **peregrina** (Cooke) Lindau 1897, p. 424; *Sphaerella* Cooke in **14** (VII, 88, 1879); Sacc. I, 519; **14** (XIX, 43); Vize Exs. 296; Cooke Exs. II, No. 700. On *Rubia peregrina*.

— **pinodes** (Berk. & Blox.) Vestergr. 1896, p. 15; **79** (VIII, 25, 1931; XI, 49); **78** (1932, 115*); **28** (XX, 99); *Sphaerella* Niessl, 1875 in Rabenh. *Fungi Eur.* No. 1947; Sacc. I, 514; **14** (XIX, 43); *Sphaeria* Berk. & Blox. apud B. & Br. in **19**, No. 981*, 1861; Cooke **15**, 908; Plowr. Exs. I, No. 92. This species was transferred to *Didymellina* by von Höhnel in **102** (XVI, 67) and to *Didymella* by Petrak in **102** (XXII, 18). On *Pisum*.

Mycosphaerella Plantaginis (Sollm.) Vestergr. 1896, p. 15; *Sphaerella* Sollm. 1864; Massee **14** (XIX, 43, 1890). On *Plantago*, Norfolk.

— **Polypodii** (Fuckel) Oudem. 1897, p. 205 (attributed to "Johanson"); *Sphaerella* Fuckel, 1869; A. Lorrain Smith **28** (III, 42, 1908). On *Asplenium*, Scotland.

— **Primulae** (Auersw. & Heufl.) Schroet. 1894, p. 338. Listed in **108** (VIII, 109, 1930), Worcs.; see also Appendix I as *Sphaerella*.

— **Pteridis** (Desm.) Schroet. 1894, p. 341; *Sphaerella* de Not. 1863; Cooke **27** (IV, 250, 1866); **15**, 919; Massee **14** (XIX, 43); Cooke Exs. 175 and II, No. 265; Vize Exs. 300; B. & Br. **19**, No. 656, 1852 as *Sphaeria*. Auerswald, 1869, found one of Cooke's specimens to be *S.* (*Mycosphaerella*) *aquilina*, q.v. On *Pteridium*.

— **punctiformis** (Pers. ex Fr.) Starb. 1889, p. 9; *Sphaerella* [Rabenh. *Herb. Myc.* Ed. II, 264, 1856] Cooke **27** (IV, 246*, 243, 1866) for the name: the figures and description here and in **15**, 914, have been referred to *Guignardia Cookeana*, q.v.; Massee **14** (XIX, 13); the following probably belong in part to *M. punctiformis*: Johnston **58**, 130, 1831 as *Sphaeria*; Berk. **20**, 279; **18**, 401; Hooker **92**, 8, 1821 as var. *Hederae*; *Cryptosphaeria* Greville in **51**, 262, 1824; Massee **14** (XIX, 43) as *Sphaerella corylaria* (Wallr.) Fuckel; Cooke Exs. 497; Cooke **15**, 913 as *Sphaerella sparsa* Auersw.; **14** (XIX, 14); Plowr. Exs. II, No. 88; Vize Exs. 396; Cooke Exs. II, Nos. 264, 370. Common on dead leaves.

— **Rumicis** (Desm.) Grove in **27** (LXXI, 253, 1933) with f. *caulicola* f.nov.; *Sphaerella* Cooke in **27** (IV, 251*, 1866); **15**, 920; **14** (XIX, 43); Cooke Exs. 168 and II, No. 268; Plowr. Exs. II, No. 90; Vize Exs. 399; **71** (XLII, 50) as *Venturia*; B. & Br. **19**, No. 658, 1852 as *Sphaeria*; Rhodes **108** (1933, 47) as *Stigmatea*. On *Rumex*.

— **sagedioides** (Wint.) Lindau 1897, p. 424; Grove **27** (LXXI, 254*, 1933). See *Didymella caulicola*.

— **Scirpi-lacustris** (Auersw.) Lindau 1897, p. 425; *Sphaerella* Auersw. 1869; Cooke **14** (V, 121, 1877); **14** (VII, 88; XIX, 43); Plowr. Exs. III, No. 91; Vize Exs. 297. On *Scirpus*.

— **sentina** (Fr.) Schroet. 1894, p. 334; **79** (I, 30; 1924; V, 30; XI, 52); **85** (XXVIII, 50); **77** (1934, 144); *Sphaerella* Fuckel 1869; Massee **14** (XIX, 13, but the leaves in the specimen from Audley End in Herb. Kew. are not of pear). On *Pyrus communis*. The pycnidia only, *Septoria pyricola* Desm., are known in Britain.

— **tabifica** (Prill. & Del.) Lind 1913, p. 203; *Sphaerella* Prill. & Del. 1891; McWeeney **63** (VI, part 3*, 1895); **23** (XI, 488, 1904, on *Brassica campestris* in Scotland, XII, 37 on *Solanum tuberosum*, XII, 596); Cooke **89**, 245*, 1906, on *Beta*; Massee **5** A, 109, 1899; **37** (1906, 59) and **5**, 195, 1910: "conidial stage *Phoma Betae* and *Phyllosticta tabifica*"; Grove **1** (I, 68). On *Beta*. There are no definite records of perithecia in Britain. The only specimen in Herb. Kew. is marked by Massee "*Phoma* stage". Proof that *M. tabifica* is a state of *Phoma Betae* is lacking. The fungus on beet is now called *Phoma Betae*. The *Phoma* on turnip was probably *P. Lingam*; that on potato is uncertain.]

— **Tassiana** (de Not.) Johanson 1884, p. 167; Grove **27** (LXVIII, 69, 1930), on *Glyceria*; *Sphaerella* de Not. 1863; Bucknall **46** (V, 54, 1886), on *Typha*.

[— **Tulasnei** (Jancz.) Lindau 1906 in Lafar, *Handb. Tech. Mykol.* 2 Aufl. IV, 270; *Sphaerella* Jancz. 1893. The conidia only, *Cladosporium herbarum* (Pers.) Link ex Fr., recorded for Britain. Ruehle **99** (1931, 1150) in the U.S.A. has verified Janczewski's discovery of perithecia.]

— **Typhae** (Lasch) Lindau 1897, p. 425; *Sphaerella* Auersw. 1869; Massee **14** (XIX, 43, 1890); Plowr. Exs. II, No. 93. On *Typha*.

— **Vaccinii** (Cooke) Schroet. 1894, p. 335; *Sphaerella* Cooke in **27** (IV, 249*, 1866); **15**, 917; Sacc. I, 493; Massee **14** (XIX, 42); Cooke Exs. 176. On *Vaccinium*.

Sphaerella Arbuti (Fr.) Sacc. in *Syll.* I, 536; Massee **14** (XIX, 43, 1890). On *Arbutus*, Scotland.

— **arcana** Cooke in **27** (IV, 246*, 1866); **15**, 913; Sacc. I, 485; **14** (XIX, 14); Cooke **27** (IV, 245, 1866) as *S. maculiformis* var. *centigrana*; Cooke Exs. 169; Vize Exs. 197 as *S. sparsa* var. *centigrana*. On leaves of "lime and chestnut".

A note by Cooke in Herb. Kew. states that *S. arcana* "appears to have originated in error...." The specimens on which this entry is based may be in part *Mycosphaerella maculiformis*, *M. punctiformis*, or *Guignardia acerifera*.

Sphaerella brachytheca Cooke in **14** (VII, 88, 1879); Sacc. I, 494; Stevenson **13**, 408, 1879; **14** (XIX, 42). On *Vaccinium*, Scotland. This name is placed by Kirschstein (1938) as a synonym of *Mycosphaerella stemmatea* (Fr.) Romell (in *Fungi Scand.* No. 68, 1890).

— **Brassicae** T. Johnson in **25** (V, 440, 1905); not in Sacc. On *Brassica*, Ireland.

— **brunneola** (Fr.) Cooke in **15**, 922, 1871; Sacc. I, 523; **56** (XXVI, p. cxi); **14** (XIX, 43); Berk. **20**, 279, 1836 as *Sphaeria*; Cooke **27** (IV, 251); Berk. Exs. 39. On *Convallaria*, etc. Schroeter (1894, p. 339) considered this a synonym of *Mycosphaerella subradians* (Fr.) Schroet. (loc. cit.). (There is also apparently the binomial *M. brunneola* (Fr.) Allesch. & Schnabel in Exs. 537, 1897.)

— **Caproniі** Sacc. in *Syll.* I, 487; Massee **14** (XIX, 14). Saccardo based his description on the record of "*S. salicicola*" in Cooke **15**, 913, 1871. On *Salix*, Surrey.

[— **cinerascens**: see *Venturia inaequalis*.]

— **Elodes** A. L. Smith & Ramsb. in **28** (V, 423, 1917). On *Hypericum Elodes*, New Forest.

— **epistroma** Cooke in **27** (XXI, 137, 1883); Sacc. II, XLII (with the well-known diatribe on Cooke's "dog-latin"). On grass.

— **erysiphina** (Berk. & Br.) Cooke in **27** (IV, 250*, 1866); **15**, 919; Sacc. I, 510; *Sphaeria* B. & Br. in **56** (IX, 67*, 1855). On leaves of *Humulus* bearing powdery mildew.

— **Hieracii** Cooke & Massee in **14** (XV, 111, 1887); **14** (XIX, 42); Sacc. IX, 620. On *Hieracium*, Kent.

— **oblivia** Cooke in **27** (IV, 246* and 242, 1866); **15**, 913; Sacc. I, 477; **14** (XIX, 13); Bucknall **46** (III, 70, 1880); Cooke Exs. 693 and II, No. 262. On *Castanea*. Referred by Auerswald (1869) to *S.* (*Mycosphaerella*) *maculiformis* as a variety.

— **Rhododendri** Cooke in **27** (XXI, 108, 1883); Sacc. II, XXXVIII. On *Rhododendron*. This name is a later homonym of *Sphaerella Rhododendri* de Not., 1863. Vize Exs. 299 was issued under the latter name. Rilstone **27** (1935, 102) reports "*Mycosphaerella Rhododendri* (Cooke) Lindau."

— **simulans** Cooke in **27** (IV, 246*, 1866); **15**, 914; Sacc. I, 478. On *Quercus*, Highgate. Auerswald (1869) considered this to be *S.* (*Mycosphaerella*) *maculiformis*, but Cooke did not agree.

Niesslia exilis (Alb. & Schw. ex Fr.) Wint. B. & Br. **19**, No. 606, 1851 as *Sphaeria*; Cooke **15**, 858; *Lasiosphaeria* Cooke in **14** (XV, 124); Massee **14** (XVI, 36). On twigs of *Pinus*. See Fitzpatrick **100** (XV, 38).

— **exosporioides** (Desm.) Wint. Massee **14** (XVI, 38) as *Venturia*; Trail **40** (X, 69); early records in error as *Venturia Chaetomium* (Corda) Ces. & de Not. [which is now considered a syn. of *N. exilis*]: Cooke **27** (IV, 244*); **15**, 923; **13**, 409; B. & Br. **19**, No. 620, 1852 as *Sphaeria Chaetomium*. On *Carex* and *Luzula*.

— **ilicifolia** (Cooke) Wint. in Rabenh. *Krypt.-Fl.* II, 197, 1885; *Venturia* Cooke in **27** (IV, 245*, 1866); **15**, 924*; Sacc. I, 588; Cooke Exs. 696; **14** (VIII, 87) as "*V. ilicicola*". On *Ilex*. Winter found his specimen of Plowr. Exs. II, No. 95, issued as *V. ilicifolia*, to be something else.

Pharcidia dubiella (Nyl.) A. L. Smith in **28** (III, 177, 1910). On lichens and Moss, Scotland. See Keissler **119**, 437.

— **Pelvetiae** Sutherland in **32** (XIV, 39*, 1915); Sacc. XXIV, 893. On *Pelvetia*.

— **triphractoides** (Nyl.) A. L. Smith in **28** (III, 177, 1910); *Endococcus* Nyl. apud Crombie in **14** (III, 24, 1874). On *Lecidea*, Scotland. Keissler **119**, 423 places it as a synonym of *Phaeospora parasitica*.

Rehmiellopsis bohemica Bubák & Kab. M. Wilson & McDonald **64** (XXXVIII, 114*, 1924); **64** (XLII, 43; XLIX, 49); **65** (XXX, 348; 112, 199). On *Abies*, Scotland.

Spumatoria longicollis Massee & Salm. gen.nov. in **33** (XV, 351*, 1901; Sacc. XVI, 1134 and XVII, 663); **35** (1902, 132); **7**, 232. On dung, Essex and Yorks.

Venturia Aucupariae (Lasch) Rostrup. Phill. & Plowr. **14** (VIII, 108, 1880) as *Sphaeria*; Massee **14** (XIX, 44) as *Sphaerella*; Plowr. Exs. II, No. 92 and III, No. 65. On *Pyrus Aucuparia*. See Lind, *Danish Fungi*.—The name *Venturia* should be conserved to continue its current use, which includes neither of the original species. See **102** (XXI, 170).

— **chlorospora** (Ces.) Karst. Massee **14** (XVI, 38, 1887). On *Salix*. A doubtful record; Ainsworth **93**, 224 considers that this species has not been found in Britain.

— **Dickiei** (Berk. & Br.) Ces. & de Not. in *Schema*, p. 51; Sacc. I, 589; Cooke **27** (IV, 244*, 1866); **15**, 923; *Sphaeria* B. & Br. in **19**, No. 617*, 1852. On *Linnaea*, Scotland. Berk. **18**, 404 wrote "*Lasiobotrys Linneae* B.", apparently a nomen nudum. Schroeter in 1908 made the combination *Coleroa Linnaeae*.

— **ditricha** (Fr.) Karst. Bucknall **46** (V, 54, 1886); Massee 14 (XVI, 38); Cooke **14** (III, 68, 1874) as *Sphaerella*; **14** (VII, 68); Cooke Exs. 688; Plowr. Exs. III, No. 95. On *Alnus*.

— **eres** (Berk. & Br.) Ces. & de Not. in *Schema*, p. 51; Sacc. I, 595; Cooke **27** (IV, 244*, 1866); **15**, 923; *Sphaeria* B. & Br. in **19**, No. 621*, 1852. On *Carex*.

— **glomerata** Cooke in **14** (III, 69, 1874); Sacc. I, 592; Massee **14** (XVI, 38); Cooke Exs. II, No. 582; Plowr. Exs. II, No. 96. On *Geranium*. Winter, Rabenh. *Krypt.-Fl.* II, p. 200, makes this a synonym of *Coleroa circinans*, but Lind, *Danish Fungi*, p. 212, keeps them separate.

— **inaequalis** (Cooke) Wint. emend. Aderh. in **105** (XXXVI, 81, 1897); Sacc. I, 587; Salmon & Ware **31** (LXXV, 190*, 1924); most of the following records under this name, and many others, refer to the *Fusicladium* stage: **5**, 204*; **14** (XVI, 38); **23** (XXXI, 548; XXXIV, 528; XLI, 551); **25** (XXV, 269; XXXIV, 96); Wiltshire **34** (I, 335); **31** (various reports); **49** (II, 26); **61** (CX, 497); **78** (1914, 95 and subsequent years); **79** (I, 29; II, 15; IV, 6; XI, 50); **85** (in most reports 1906–12 and 1927–38); **93**, 131, references; **112**, 185*; Bennett, *Outlines of Fungi and Plant Diseases*, p. 150*; *Sphaerella* Cooke in **27** (IV, 248*, 1866); **15**, 916; Cooke Exs. 173; Vize Exs. 495; **23** (XV, 182) as *Valsa pomi*. On overwintered leaves of *Pyrus Malus*. Cooke described this species on "*Pyrus Aria*, ash, hawthorn, pear, apple", from which comes the false record of *Sphaerella cinerascens* in **14** (XIX, 42); Cooke issued Exs. 690 as "*Sphaerella inaequalis* var. *Salicis*". See **28** (XX, 103) for taxonomy of *V. inaequalis*.

— **integra** Cooke in **15**, 924, 1871; Sacc. I, 596; Massee **14** (XVI, 38). On *Corylus*, Shere.

— **Johnstoni** (Berk. & Br.) Sacc. in *Mich.* II, 55; *Syll.* I, 592; Massee **14** (XVI, 38); Vize Exs. 598; *Dothidea* B. & Br. in **19**, No. 661, 1852; Cooke **15**, 806; **14** (III, 126). On *Epilobium*. Winter, Rabenh. *Krypt.-Fl.* II, 436 and Lind., *Danish Fungi*, p. 213, think this a synonym of the next.

— **maculiformis** (Desm.) Wint. Muskett *et al.* **71** (XLII, 50, 1934). On *Epilobium*, Ireland.

— **Myrtilli** Cooke in **27** (IV, 245*, 1886); **15**, 924; Sacc. I, 590; **14** (XVI, 38); **7**, 228; **70** (XXI, 389); Cooke Exs. 164 and II, No. 581; Plowr. Exs. II, No. 94. On *Vaccinium*.

— **pirina** Aderh. Perithecia reported by Salmon & Ware **31** (LXXV, 274*, 1924; XCI, 446); most of the following and many other reports are of conidia: **85** (XV, 220; XXIV, 150; XXXI to XLI); **23** (XXXI, 552*; XXXIV, 162); **25** (XXV, 272); **79** (I, 30; V, 26; XI, 52); **34** (I, 335); **93**, 122; **112**, 187. On *Pyrus communis*.

— **Thwaitesii** Massee & Crossland in **35** (1904, 3); Sacc. XVII, 651; **7**, 228. On *Rubus*, Yorks.

Vialaea insculpta (Fr. emend. Oudem.) Sacc. Phill. & Plowr. **14** (XIII, 77, 1885) as *Zignoella*. On *Ilex*. Grove **27** (LIX, 13*, 1921) studied specimens and decided that *Boydia remuliformis* (q.v., supra) was probably the same, and made the combination *B. insculpta* (Oudem.) Grove.

SPHAERIACEAE: PHAEODIDYMAE

Amphisphaeria paedida (Berk. & Br.) Sacc. in *Syll.* I, 724; *Sphaeria* B. & Br. in **19**, No. 1396*, 1873; Cooke **14** (II, 164*); *Conisphaeria* Cooke in **14** (VII, 86); *Melanomma* Cooke in **14** (XVI, 52 and 118). On *Fagus*, Somerset.

— **ulmicola** (Currey) Sacc. & Trav. in *Syll.* XIX, 68; *Syll.* XXII, 182; *Sphaeria* Currey in **45** (XXII, 321*, 1859). On *Ulmus*. Currey does not state that it was a British collection. No one has seen asci.

— **umbrina** (Fr.) de Not. Crossland **35** (1913, 177). On *Quercus*, Yorks.

— **ventosaria** (Lindsay) Sacc. in *Syll.* I, 729; Massee **14** (XVII, 5); Cooke **15**, 872 as *Sphaeria*; *Psilosphaeria* Stevenson in **13**, 388. On lichens. Keissler **119**, 412 places this as a synonym of *Tichothecium pygmaeum*, and gives further synonymy.

Delitschia bisporula (Crouan) Hansen. Phill. & Plowr. **14** (VI, 28, 1877); Plowr. Exs. III, No. 46; *Sordaria* Cooke & Plowr. in **14** (VII, 86); Stevenson **7**, 395; **14** (XVI, 120); Bucknall **46** (III, 138). On dung. Von Höhnel (*Fragm. Mykol.* No. 1202) suggests that this may be a *Protoventuria*.

— **insignis** Mouton. Massee & Salmon **33** (XV, 344*, 1901). On dung. Cain **100** (XXVII, 227) transfers this to *Zygospermella*.

— **Marchalii** Berl. & Vogl. Plowr. **28** (I, 63, 1899). On dung, Norfolk.

— **minuta** Fuckel. Phill. & Plowr. **14** (VI, 29*, 1877); Massee **14** (XVI, 120) as *Sordaria*; Cooke Exs. 451 as *Sphaeria*; *Sordaria minutella* Cooke & Plowr. in **14** (VII, 86, a new name being necessary in order to place the species in *Sordaria*); Stevenson **13**, 395. On dung. Petrak **102** (1924, 139) thinks *D. minuta* is probably the same as the next.

— **moravica** Niessl. Massee & Salmon **33** (XV, 343*, 1901). On dung, Surrey. Cain (*Coprophilous Sphaeriales Ontario*) makes it a synonym of *D. bisporula*.

— **Winteri** (Phill. & Plowr.) Sacc. in *Syll.* I, 734; **33** (XV, 345*); *Sphaeria* Phill. & Plowr. in **14** (II, 188*, 1874); Plowr. Exs. II, No. 59; *Sordaria* Cooke & Plowr. in **14** (VII, 85); **13**, 394; Bucknall **46** (III, 138); Massee **14** (XVI, 120). On dung.

Didymosphaeria acerina Rehm. Phill. & Plowr. **14** (VI, 27, 1877); *Sphaeria* Cooke & Plowr. in **14** (VII, 87). On *Acer*, Norfolk. Petrak **102** (1923, 329) names this *Amphisphaeria millepunctata* (Fuckel) Petrak.

— **arenaria** Mouton. Grove **27** (LXXI, 258, 1933). On *Ammophila*, Wales.

— **celata** (Currey) Sacc. in *Syll.* I, 705; Massee **14** (XVIII, 12); **7**, 233; *Sphaeria* Currey apud Berk. in **18**, 398, 1860; Cooke **15**, 880; *S. obtecta* Currey in **68**A (VII, 233*, 1859); B. & Br. **19**, No. 979, 1861. On *Ulmus*.

— **conoidea** Niessl. Cooke **14** (XIV, 41, 1885); Bucknall **46** (V, 53, 1885); **14** (XVIII, 57); A. Lorrain Smith **28** (VI, 149). On stems.

— **crastophila** Niessl var. **Brachypodii** Feltgen. O'Connor **70** (XXI, 398, 1936). On grass, Ireland.

— **diplospora** (Cooke) Rehm in **105** (1879, 167); Sacc. I, 710; Massee **14** (XVIII, 12); *Sphaeria* Cooke in **27** (IV, 102, 1866); **15**, 891; Plowr. Exs. II, No. 72. On *Rubus*. See Rhodes **108** (1933, 53).

— **dochmia** (Berk. & Br.) Sacc. in *Syll.* I, 706; Massee **14** (XVIII, 12); *Sphaeria* B. & Br. in **19**, No. 630*, 1852; Cooke **15**, 890. On "*Ulmus*", Batheaston. The host of the type collection has been determined at Kew as *Alnus*.

— **Empetri** (Fr.) Sacc. B. & Br. **19**, No. 1627, 1876 as *Sphaeria*; Cooke **14** (V, 63); **13**, 405; *Didymosphaerella* Cooke in **14** (XVIII, 29); Massee **14** (XVIII, 57). On *Empetrum*.

— **enormis** Grove in **27** (LXVIII, 71*, 1930). On *Juncus*, Borth.

— **epidermidis** (Fr.) Fuckel. Massee **14** (XVIII, 12); **37** (1909, 374); Berk. **19**, No. 186, 1841 as *Sphaeria*; B. & Br. **19**, No. 639; Currey **45** (XXII, 329*); Cooke **27** (IV, 103*); **15**, 891; *S. Araucariae* Cooke in **27** (IV, 103*, 1866); *Sphaerella Araucariae* Cooke in **27** (IV, 250). On various hosts.

— **fenestrans** (Duby) Wint. Recorded **28** (XXI, 3, 1937) on *Epilobium*, Matlock Bath Foray. Petrak **102** (1923, 30) makes this the type of the genus *Sydowiella*.

— **fucicola** Sutherland in **32** (XIV, 188, 1915); Sacc. XXIV, 927. On *Fucus*, Orkney.

Didymosphaeria futilis (Berk. & Br.) Rehm in **105** (1870, 167); Sacc. I, 712; Massee **14** (XVIII, 12); Grove **27** (LXVIII, 73); *Sphaeria* B. & Br. in **19**, No. 638*, 1852; Cooke **15**, 891. On *Rosa*.

— **microstictica** (Leighton) Wint. A. Lorrain Smith **28** (III, 176); Keissler **119**, 475, with synonymy. On lichens.

— **neottizans** (Leighton) A. L. Smith in **28** (III, 177, 1910). Rare on *Baeomyces*. Keissler **119**, 494 places this as *Leptosphaeria*.

— **oblitescens** (Berk. & Br.) Sacc. in *Syll.* I, 713; Massee **14** (XVIII, 12); *Sphaeria* B. & Br. in **19**, No. 887*, 1859; Cooke **15**, 891. On *Cornus*, Wilts.

— **palustris** (Berk. & Br.) Sacc. in *Syll.* I, 708; Massee **14** (XVIII, 57); Grove **27** (LXVIII, 73); *Sphaeria* B. & Br. in **19**, No. 654*, 1852; Cooke **15**, 898; Cooke Exs. II, No. 252; Plowr. Exs. II, No. 76. On *Carex*, etc. Von Höhnel, *Frag. Myk.* 1173 suggested a new genus, *Ceriophora*, for this species.

— **pelvetiana** Sutherland in **32** (XIV, 185*, 1915); Sacc. XXIV, 928. On *Pelvetia*, Orkney and Solent.

— **pulposi** Zopf. W. Watson **27** (LV, 316, 1917) reports this species or a closely allied one on lichens, Buckden. See Keissler **119**, 463 as *Didymella*.

— **Spartinae** Grove in **27** (LXXI, 259*, 1933). On *Spartina*, Dorset.

— **Syringae** Fabre. Grove **27** (LXVIII, 72*, 1930); Rhodes **108** (1933, 48). On *Syringa*, Worcs.

— **tenebrosa** (Berk. & Br.) Sacc. in *Syll.* I, 711; Massee **14** (XVIII, 57); *Sphaeria* B. & Br. in **19**, No. 649*, 1852; Cooke **15**, 898. On *Arctium*.

— **trivialis** (Berk. & Br.) Sacc. in *Syll.* I, 705; Massee **14** (XVIII, 11); *Sphaeria* B. & Br. in **19**, No. 632*, 1852; Cooke **15**, 890. On *Cornus*, Wilts.

— **vexata** (Sacc.) Wint. Hawley **28** (VIII, 228, 1923). On *Cornus*, Dorset. Hawley thought it might be the same as *D. trivialis*.

— **Winteri** Niessl. Phill. & Plowr. **14** (XIII, 76, 1885). On stems of *Solanum tuberosum*, Scotland.

Gibellina cerealis Pass. Mary Glynne **28** (XX, 121, 1936). On *Triticum aestivum*, Herts.

Lizonia emperigonia (Auersw.) de Not. A. Lorrain Smith **27** (XXXV, 8, 1897); **28** (I, 73). On *Polytrichum*.

Massariella bufonia (Berk. & Br.) Speg. gen.nov. in *Fungi Arg.*; Sacc. I, 716; *Sphaeria* B. & Br. in **19**, No. 629*, 1852; Currey **45** (XXII, 327*, 1859); *Massaria* Tul. in **114** (II, 236, 1863); Cooke **15**, 846; Massee **14** (XVIII, 9); Plowr. Exs. I, No. 59. On *Quercus*.

— **Curreyi** (Tul.) Sacc. in *Syll.* I, 717; *Massaria* Tul. in **114** (II, 231*, 1863); Cooke **15**, 847; Massee **14** (XVIII, 9); "*Sphaeria Tiliae*" in **45** (XXII, 327*, 1859) p.p. On *Tilia*.

— **scoriadea** (Fr.) Sacc. in *Syll.* IX, 739; Berk. **19**, No. 176, 1841 as *Sphaeria*; Currey **45** (XXII, 283*); Cooke **15**, 873; *Anthostoma* Sacc. in *Syll.* I, 302; *Massaria* Cooke in **14** (XVII, 93); Massee **14** (XVIII, 9). On *Betula*. See Jørgensen (ref. in *Rev. Appl. Myc.* X, 273).

— **vibratilis** (Fuckel) Sacc. Berk. **20**, 268, 1836 in error as *Sphaeria vibratilis* Fr.; Currey **45** (XXLI, 323*); Cooke **15**, 885; Massee **14** (XV, 117) in error as *Valsa*. On *Prunus*, Norths. See Oudem. *Enumerat.* III, 772.

Melanconiella spodiaea (Tul.) Sacc. Massee **14** (XV, 119, 1887) as *Melanconis*. On *Carpinus*, Highgate.

Neopeckia fulcita (Bucknall) Sacc. in *Syll.* IX, 750; Hawley **28** (VIII, 227); *Lasiosphaeria* Bucknall in **46** (V, 126* and 132, 1887). On *Prunus*.

Otthia Crataegi Fuckel. Cooke **14** (XVIII, 53, 1890). On *Crataegus*, Newcastle.

— **populina** (Pers. ex Fr.) Fuckel. Massee **14** (XVI, 34); Berk. **19**, No. 96, 1838 as *Sphaeria*; Cooke **15**, 842, 1871, as *Cucurbitaria*. On *Populus*. See *Teichospora obducens*.

— **Pruni** Fuckel. Massee **14** (XVI, 34, 1887). On *Prunus*, Eastbourne.

— **Syringae** (Fr.) Niessl. Niessl **105** (1876, 2) found *O. Syringae* on Cooke Exs. II, No. 18 issued as "*Diplodia Syringae*, with *Sphaeria*"; Massee **14** (XVI, 34); *Cucurbitaria* Cooke & Plowr. in **14** (VII, 83). On *Syringa*.

Phaeosphaerella macularis (Fr.) Trav. Massee **14** (xix, 14 and 42, 1890) as *Sphaerella*, "on poplar leaves, Apethorpe". There is only one specimen in Herb. Kew., marked by Currey "immature". The species was referred to *Mycosphaerella* by Schroeter in 1894.

Rhynchostoma apiculata (Currey) Wint. in Rabenh. *Krypt.-Fl.* ii, 598; *Valsaria* Sacc. in *Syll.* i, 752; *Sphaeria* Currey in **45** (xxii, 326*, 1859); Cooke **15**, 879; B. & Br. **19**, No. 1333, 1871; Cooke Exs. 272; Plowr. Exs. i, No. 80; *Xylosphaeria* Stevenson in **13**, 399, 1879; **35** (Sept. 1881); Massee **14** (xviii, 8); **7**, 233. On wood. This species was made the type of *Apiorhynchostoma* Petrak gen.nov. in **102** (1923, 185).

Tichothecium calcaricola (Mudd) Arnold. Massee **14** (xvii, 4); A. Lorrain Smith **28** (iii, 174), with synonymy. On lichens. Keissler **119**, 389 makes this a variety of *Discothecium gemmiferum*.

— **cerinarium** (Mudd) Berl. & Vogl. Massee **14** (xvii, 5); A. Lorrain Smith **28** (iii, 176). On lichens. Keissler **119**, 415 places this and the next two as *T. pygmaeum* var. *erraticum*.

— **erraticum** Massal. A. Lorrain Smith **28** (iii, 175, 1910). On lichens, Dorset. Also reported 1922 Foray.

— **erraticum** subsp. **microphorum** (Nyl.) A. L. Smith in **28** (iii, 175, 1910). On lichens.

— **gelidarium** (Mudd) Berl. & Vogl. in Sacc. *Addit. I–IV*, 118; Massee **14** (xvii, 4); *Sphaeria* Mudd in *Manual*, p. 130; *Didymosphaeria* A. L. Smith in **28** (iii, 176). On lichens.

— **gemmiferum** (Taylor) Koerb. Wint. **105** (1886, 16); Sacc. ix, 725; Massee **14** (xvii, 4); A. Lorrain Smith **28** (iii, 174). On lichens. Keissler **119**, 385 follows Vouaux in placing this in *Discothecium*.

— **leucomelarium** (Mudd) Berl. & Vogl. Massee **14** (xvii, 5); *Sphaeria* Mudd in *Manual*, p. 105. On lichens. Keissler **119**, 494 follows Vouaux in placing this in *Leptosphaeria*.

— **perpusillum** (Nyl.) Arnold. Massee **14** (xvii, 4); A. Lorrain Smith **28** (iii, 174). On lichens. Keissler (**119**) considers this a synonym of *Discothecium gemmiferum* var. *calcaricola*.

— **pygmaeum** Koerb. Massee **14** (xvii, 5, 1888); A. Lorrain Smith & Rea **28** (ii, 61). On lichens. See Keissler **119**, 411.

— **pygmaeum** var. **ventosicola** (Mudd) Wint. A. Lorrain Smith **28** (iii, 175, 1910). Keissler does not recognise this variety as distinct.

— **rimosicola** (Leighton) Arnold. Sacc. ix, 727; Massee **14** (xvii, 5); A. Lorrain Smith **18** (iii, 175). This is placed by Keissler **118**, 420 as a synonym of *Phaeospora parasitica* (Loennr.) Arnold.

— **squamarioides** (Mudd) Wint. in **105** (1886, 17); Sacc. ix, 725; Massee **14** (xvii, 5); A. Lorrain Smith **28** (iii, 176). On lichens. Keissler **119**, 403 transfers this to *Discothecium*.

Valsaria anserina (Pers. ex Fr.) Sacc. B. & Br. **19**, No. 889, 1859 as *Sphaeria*; Cooke **15**, 879; *Xylosphaeria* Cooke in **14** (xvii, 86); Massee **14** (xviii, 8). On *Salix*, etc.

— **Caproni** (Cooke) Berl. & Vogl. in Sacc. *Addit. I–IV*, 131; *Pseudovalsa* Cooke in **14** (xiv, 48, 1885); **14** (xv, 120). On wood, Shere.

— **cincta** (Currey) Sacc. in *Syll.* i, 742; *Sphaeria* Currey in **45** (xxii, 277*, 1858); *Diatrype* B. & Br. in **19**, No. 846, 1859; Cooke **15**, 816; **14** (xv, 69); Plowr. Exs. ii, No. 22; Niessl **105** (1874, 130). On *Fagus*, Surrey.

— **insitiva** Ces. & de Not. Recorded **28** (vii, 8). See Appendix I.

— **Parmularia** (Berk.) Sacc. Cooke **15**, 836, 1871 as *Valsa*; Massee **14** (xv, 119) as *Pseudovalsa*. On *Quercus*. Described by Berkeley from France.

— **rubricosa** (Fr.) Sacc. Currey **45** (xxii, 266*, 1858) as *Sphaeria*; *Melogramma* Tul. in **114** (ii, 84); Phill. & Plowr. **14** (vi, 25); **14** (xv, 39); Plowr. Exs. iii, Nos. 18, 19. On *Fagus*, etc.

[**Xylobotryum caespitosum** A. L. Smith in **28** (iii, 331*, 1912); Sacc. xxiv, 1294; *Sphinctrina* Phill. nom. nud. in **31** (Aug. 7, 1878). On an old fungus, Hereford. The figure represents a Discomycete.]

SPHAERIACEAE: HYALOPHRAGMIAE

It might be better to place all the British Phragmosporae in one series; *Zignoella* and *Melanomma* at any rate cannot accurately be separated on spore colour.

Acanthostigma parasiticum (Hartig) Sacc. "H. W." **64** (XLVII, 71, 1933) as *Trichosphaeria*. On *Abies*, Scotland. Perithecia not mentioned.

Broomella Vitalbae (Berk. & Br.) Sacc. gen.nov. in *Syll.* II, 558; Petch **27** (LXXIV, 185); *Hypocrea* B. & Br. in **19**, No. 829*, 1859; Tul. **114** (III, XV); Cooke **15**, 775; **14** (XV, 4); Rabenh. *Fungi Eur.* 43, coll. Broome. On *Clematis Vitalba*, Batheaston. Von Höhnel, *Fragm. Myc.* 1147, thought *Ceriospora xantha* Sacc. the same. See Bucknall **46** (V, 48*, 53) for a record as *C. xantha*.

[— **leptogicola** (Cooke & Massee) Sacc. in *Syll.* IX, 989; *Hypocrea* Cooke & Massee in **14** (XIX, 86). A lichen, teste Petch **27** (LXXIV, 185).]

Calospora alnicola (Cooke & Massee) Sacc. in *Syll.* IX, 872; *Valsa* Cooke & Massee in **14** (XVI, 47, 1887); *Massarina* Berl. in **98** (I, 118*). On *Alnus*, Kew.

— **platanoides** ([Pers.]) Niessl. **70** (XXI, 399); Cooke **15**, 837 as *Valsa*; Massee **14** (XV, 119); **7**, 223; Plowr. Exs. II, No. 38; Berk. **20**, 251, 1836 as *Sphaeria stilbostoma* var. *platanoides*; Currey **45** (XXII, 278*); *S. Innesii* Currey in **45** (XXII, 281*); *Valsa Innesii* B. & Br. in **19**, No. 863, 1859; Cooke **15**, 838; Tul. **114** (II, 201); Massee **14** (XV, 119); *Calospora Innesii* Sacc. in *Syll.* II, 231. On *Acer Pseudoplatanus*.

?— **undulata** (Berk. & Br.) Sacc. in *Syll.* II, 233; "*Diatrype*" in **19**, No. 831, 1859; Massee **14** (XV, 69). On *Hedera*. Berkeley & Broome found 3-septate spores, and Saccardo thought it might belong to a new genus, but Berlese **98** (I, 117) found *Diatrype* (see *D. stigma*) on the specimen he examined.

Ceratosphaeria crinigera (Cooke) Sacc. in *Syll.* II, 227; Berl. **98** (I, 91*); *Sphaeria* Cooke in **14** (I, 156, 1873); Plowr. Exs. I, No. 78; *Ceratostoma* Cooke in **14** (VII, 84); **13**, 385; *Ceratostomella* Cooke in **14** (XVII, 49); **14** (XVII, 73). On wood of *Pinus*.

— **lampadophora** (Berk. & Br.) Niessl gen.nov. in *Not. Pyr.*, 1876; Sacc. II, 227; Berlese **98** (I, 90*); *Sphaeria* B. & Br. in **19**, No. 882*, 1859; Cooke **15**, 877; *Ceratostomella* Cooke in **14** (XVII, 49); Massee **14** (XVII, 73). On wood.

— **ordinata** (Fr.) Kirschst. B. & Br. **19**, No. 973*, 1861 as *Sphaeria*; Cooke **15**, 863; Rabenh. *Fungi Europ.* No. 329, coll. Broome; Massee **14** (XVII, 6) as *Winteria*; **7**, 232. On *Quercus*.

— **rhenana** (Auersw.) Wint. Hawley **28** (VIII, 228, 1923). Dorset [on *Salix*?].

Cryptoderis riparia (Niessl) Sacc. Grove **27** (XXIV, 132, 1886, on *Epilobium*); A. Lorrain Smith **28** (III, 117, 1909) as *Gnomonia*, on "rose twigs".

Epicymatia Balani Wint. Rea & Hawley **71** (XXXI, Part 13, p. 7 and 10, 1912). On casts of *Balanus*, with algae, Clare Island. Thought to be near *Pharcidia marina* Bomm. (see **28**, III, 98).

— **thallina** (Cooke) Sacc. in *Syll.* I, 572; *Sphaerella* Cooke in **14** (VIII, 10, 1879); Massee **14** (XIX, 44). On *Physcia*, Eastbourne. Keissler **119**, 355 makes this a synonym of *Pharcidia dispersa* (Lahm) Wint.

— **thallophila** (Cooke) Sacc. in *Syll.* I, 572; Wheldon **40** (1911, 38); *Sphaeria* Cooke in **15**, 872, 1871; *Psilosphaeria* Stevenson in **13**, 388; *Sphaerella* Cooke in **14** (XVIII, 79); Massee **14** (XIX, 44). On lichens, Scotland.

— **vulgaris** Fuckel. Massee **14** (XIX, 44) as *Sphaerella*; B. & Br. **19**, No. 871, 1859 as *Sphaeria apotheciorum* Massal.; Cooke **15**, 872; Plowr. Exs. III, No. 51. On *Lecanora*, Norfolk. Keissler **119**, 373 used the name *Pharcidia epicymatia* (Wallr. ap. Fr.) Wint.

Herpotrichia Keithii (Berk. & Br.) Sacc. in *Syll.* II, 212; *Sphaeria* B. & Br. in **19**, No. 1626*, 1876; *Byssosphaeria* Cooke in **14** (VII, 84); *Psilosphaeria* Cooke in **14** (VII, 84); *Psilosphaeria* Cooke in **14** (XVI, 51); Massee **14** (XVI, 117); *Lasiosphaeria* Berl. in **98** (I, 114*). On cordage, Dublin.

plate 118
pp. 114
1892

Herpotrichia macrotricha (Berk. & Br.) Sacc. in *Syll.* II, 213; *Sphaeria* B. & Br. in **19**, No. 619*, 1852; Cooke **15**, 859; *Lasiosphaeria* Cooke in **14** (XVI, 16 and 37). On *Carex*, Spye Park. Berlese **98** (I, 106) thought this might be *H. nigra*, but Petrak **105** (1925, 214) doubted it.

— **nigra** Hartig. Crossland **35** (June, 1905); **31** (July 1, 1905); **7**, 369; Massee **23** (XII, 177, 1905); **64** (XIX, 360, 1906); **89**, 223; **28** (II, 127). On conifers. See M. Ward **56** (XIV, 133, 1892).

— **pinetorum** (Fuckel) Wint. Recorded **28** (VII, 8) on *Ulex*; see Appendix I. Petrak **105** (1925, 214) cited the name as a synonym of *H. nigra*. See *Lasiosphaeria scabra*.

Hypospila bifrons (DC. ex Fr.) Sacc. Massee **14** (XV, 37); **7**, 220; Berk. **20**, 258, 1836 as *Sphaeria*; Currey **45** (XXII, 285*); *S. circumvoluta* Sowerby in **42**, t. 373, 1802; Cooke **15**, 930* as *Hypospila quercina*; Cooke Exs. 177 and II, No. 299. On leaves of *Quercus*.

— **immunda** (Fuckel) Sacc. Massee **14** (XV, 37); *Isothea* Cooke in **15**, 931, 1871. On leaves of *Quercus*, Shere.

— **pustula** (Pers. ex Fr.) Karst. Berk. **20**, 284, 1836 as *Phoma*; Berk. Exs. 40; *Isothea* Berk. in **18**, 392, 1860; Cooke **15**, 931; Bucknall **46** (II, 350); Cooke Exs. 499 and II, No. 298; Plowr. Exs. I, No. 79. On leaves of *Quercus*. This is the type species of *Phoma* Fries; but see **28** (XXIII, 289).

Lasiosphaeria ambigua Sacc. Massee **14** (XVI, 37, 1887). On burnt ground, Shrewsbury. This is doubtless var. *carbonaria* Rehm. Chenantais **117** (XXXV, 79) transferred this to *Lasiosordaria*. See Seaver **100** (IV, 115) for *Lasiosphaeria*, and *Leptospora* below.

— **biformis** (Pers. ex Fr.) Sacc. Massee **14** (XVI, 37); Berk. **20**, 261, 1836 as *Sphaeria*; Cooke **15**, 855. On old wood.

— **biformis** var. **terrestris** (Sowerby ex Fr.) Sacc. in *Syll.* II, 204; *Sphaeria terrestris* Sow. in **42**, t. 373, 1802; Berk. **20**, 261 as *S. biformis* var.; Cooke **15**, 855. On soil. Seaver **100** (IV, 120) cites it as *Lasiosphaeria terrestris* (Sow.) Thüm.

— **calva** (Tode ex Fr.) Stevenson in **13**, 390, 1879; Berk. **20**, 262, 1836 as *Sphaeria*; Cooke **15**, 858. On wood.

— **canescens** (Pers. ex Fr.) Karst. Stevenson **13**, 390; Massee **14** (XVI, 37); Berk. **20**, 261, 1836 as *Sphaeria*; Currey **45** (XXII, 315*); Cooke **15**, 858; Berk. Exs. 301; Plowr. Exs. I, No. 65; Cooke Exs. 590. On wood. See *L. strigosa*.

— **felina** (Fuckel) Cooke & Plowr. in **14** (VII, 85, 1879); Massee **14** (XVI, 36); B. & Br. **19**, No. 1332*, 1871 as *Sphaeria*; Cooke **14** (I, 156); Bucknall **46** (III, 26). On *Rubus*.

— **helicoma** (Phill. & Plowr.) Cooke & Plowr. in **14** (VII, 85, 1879); Sacc. II, 192; Berl. **98** (I, 112*); Massee **14** (XVI, 37); *Sphaeria* Phill. & Plowr. in **14** (VI, 26*, 1877); Plowr. Exs. III, No. 52. "On the ground where sawdust had lain."

— **hirsuta** (Fr.) Ces. & de Not. Massee **14** (XVI, 37); **7**, 227; Hooker 92, 7, 1821 as *Sphaeria*; Berk. **20**, 262; Currey **45** (XXII, 316*); Cooke **15**, 856, with var. *acinosa*; Plowr. Exs. II, No. 52 and 52A. On wood. Kirschstein, 1911 and Seaver **100** (1912, 119) consider *L. hirsuta*, *L. hispida* and *L. rhacodium* synonymous.

— **hispida** (Tode ex Fr.) Fuckel. Massee **14** (XVI, 37); **7**, 227; Berk. **20**, 262, 1836 as *Sphaeria*; Cooke **15**, 357; *S. ligniaria* Greville in **39**, t. 82, 1824; Currey **45** (XXII, 322*). On wood. See *L. hirsuta*.

— **mutabilis** (Pers. ex Fr.) Fuckel. Massee **14** (XVI, 37); **7**, 228; Currey **45** (XXII, 316*, 1859) as *Sphaeria*; Cooke **15**, 859. On wood. Seaver **100** (IV, 118) considers this to belong to the next species.

— **ovina** (Pers. ex Fr.) Ces. & de Not. Massee **14** (XVI, 36); **7**, 227; Berk. **20**, 260, 1836 as *Sphaeria*; Currey **45** (XXII, 316*); Cooke **15**, 856; Cooke Exs. II, Nos. 565, 576; Vize Exs. 289; Plowr. Exs. II, No. 51; *S. nivea* Sowerby in **42**, t. 219, 1799. On wood. See Seaver **100** (IV, 118).

Lasiosphaeria paucipilis (Cooke) Sacc. in *Syll.* II, 196; *Sphaeria* Cooke in **15**, 863, 1871. On wood.

— **rhacodium** (Pers. ex Fr.) Ces. & de. Not. Massee **14** (XVI, 37); **35** (Sept. 1881); **7**, 227; Berk. **20**, 261, 1836 as *Sphaeria*; Currey **45** (XXII, 315*); Berk. Exs. 283. On wood. See *L. hirsuta.*

— **scabra** (Currey) Auersw. in Rabenh. *Fungi Europ.* No. 1245; Sacc. II, 202; Bucknall **46** (V, 132, 1887); **14** (XVI, 37); *Sphaeria* Currey in **45** (XXII, 315*, 1859); Cooke **15**, 859. On *Ulex.* Berlese **98** (I, 115) referred this to *Herpotrichia pinetorum.*

— **spermoides** (Hoffm. ex Fr.) Ces. & de Not. Hooker **92**, 7, 1821 as *Sphaeria*; Greville **39**, t. 6, 1823; Berk. **20**, 265; Currey **45** (XXII, 318*); Cooke **15**, 861; Vize Exs. 102; Plowr. Exs. I, No. 66; *Psilosphaeria* Stevenson in **13**, 386; **14** (XVI, 117); **7**, 228. On wood. See Seaver **100** (IV, 121).

— **strigosa** (Alb. & Schw. ex Fr.) Sacc. Massee **14** (XVI, 37); Berk. **20**, 261, 1836 as *Sphaeria*; Cooke **15**, 858. On wood. Currey **45** (XXII, 316) and Seaver **100** (IV, 118) considered *L. canescens* probably the same species.

— **sulphurella** Sacc. Cooke **14** (XV, 43, 1886); **14** (XVI, 37); Hawley **28** (VIII, 227). On wood. See **117** (XXXV, 78 and 80, 1919).

[**Leptospora** has been used in Foray records for three species of *Lasiosphaeria*, but the type species of *Leptospora* Rabenh. in **105** (I, 116, 1857) is *L. porphyrogona. Leptospora* is therefore a synonym of the earlier genus *Ophiobolus.*]

Lulworthia fucicola Sutherland gen.nov. in **28** (V, 259*, 1916); Sacc. XXIV, 1059. On *Fucus*, Dorset.

Massarina Alni (Otth.) Sacc. Grove **27** (LXXI, 283*, 1933); Rhodes **108** (1933, 48). On *Alnus*, Wales and Worcs.

— **eburnea** (Tul.) Sacc. Cooke **27** (IV, 101*, 1866) as *Massaria*; **15**, 847*; Bucknall **46** (IV, 202, 1885); **14** (XVIII, 10); Cooke Exs. 371. On *Fagus.*

— **Tiliae** (Phill. & Plowr.) Sacc. in *Syll.* II, 154; *Massaria* Phill. & Plowr. in **14** (X, 72*, 1881, the fig. on pl. 58, vol. XI); Stevenson **40** (VII, 114); Massee **14** (XVIII, 10). On *Tilia*, Scotland. Berlese **98** (I, 120) considered the type specimen to be *Massariella Curreyi.*

Melomastia mastoidea (Fr.) Schroet. Berk. **19**, No. 183, 1841 as *Sphaeria*; Cooke **15**, 871; *Conisphaeria* Stevenson in **13**, 398; *Sphaeria Lonicerae* Sowerby in **42**, t. 293, 1803; Berk. **20**, 271; Currey **45** (XXII, 329*); Cooke **15**, 874; Cooke Exs. 262; Plowr. Exs. I, No. 77; *Psilosphaeria Lonicerae* Stevenson in **13**, 388; *Sphaeria revelata* B. & Br. in **19**, No. 634*, 1852; Cooke **15**, 887; **14** (VIII, 108); **105** (XIV, 25); *S. fraxinicola* Currey in **45** (XXIV, 128*, 1863); B. & Br. **19**, No. 1098; Cooke **15**, 881; *Conisphaeria Friesii* (Nits.) Cooke in **14** (XVI, 87); Massee **14** (XVII, 4). On *Lonicera, Fraxinus*, etc. This fungus is often called *Melomastia Friesii* Nits.

Metasphaeria acorella (Cooke) Berl. & Vogl. in Sacc. *Addit. I–IV*, 158; Massee **14** (XVIII, 41); Grove **27** (LXVIII, 97); *Leptosphaeria* Cooke in **14** (XIII, 99, 1885). On *Acorus.*

— **anarithma** (Berk. & Br.) Sacc. in *Syll.* II, 175; Grove **27** (LXVIII, 99); Massee **14** (XVIII, 41); Rhodes **108** (1933, 48); *Sphaeria* B. & Br. in **19**, No. 893*, 1859; *Sphaerella* Cooke in **27** (IV, 251*, 1866); **15**, 920; **14** (XIX, 43). On *Aira.* Berlese **98** (I, 135) found the type specimen sterile.

— **Ashwelliana** (Currey) Sacc. in *Syll.* II, 167; *Sphaeria* Currey in **45** (XXII, 327*, 1859); Cooke **15**, 889; *Endophlaea* Cooke in **14** (XVII, 89); **14** (XVIII, 11). On "fir", Surrey.

— **cetrariicola** (Nyl. ex Cooke) Sacc. in *Syll.* II, 184; Massee **14** (XVIII, 41); *Sphaeria* Nyl. ex Cooke in **14** (III, 68, 1874); *Psilosphaeria* Cooke in **14** (VII, 85); Stevenson **13**, 389. On *Cetraria*, Scotland. Keissler **119**, 273 transfers this to *Phragmothyrium.*

— **complanata** (Tode ex Fr.) Sacc. Massee **14** (XVIII, 41); **7**, 234; Berk. **20**, 275, 1836 as *Sphaeria*; B. & Br. **19**, No. 644; Cooke **15**, 903; Currey **68**A (III, 269*, 1855). On stems.

Metasphaeria conformis (Berk. & Br.) Sacc. in *Atti Istit. Veneto*, p. 935, 1884; Sacc. *Addit. I–IV*, 155; *Sphaeria* B. & Br. in **19**, No. 635*, 1852; Currey **45** (xxii, 325*, 1859); Cooke Exs. 265; Cooke **15**, 888 as *S. ditopa* f. *octospora*; see Tul. **114** (ii, 145); Berlese **98** (i, 147) considered *S. conformis* a form of *Leptosphaeria doliolum*. On *Alnus*.

— **corticola** (Fuckel) Sacc. Grove **1** (ii, 329); Bucknall **46** (iv, 203, 1885 as *Sphaeria*, on *Prunus*, fig. in v, pl. viii); Brooks & Alaily **34** (xxxvi, 213*) as *Griphosphaeria*. On *Rosa*. See **102** (1918, 87; 1921, 32).

— **culmifida** (Karst.) Sacc. Grove **27** (l, 49, 1912); Bucknall **46** (v, 128* and 132, 1887) as *Sphaeria*. On grass.

— **cumana** (Sacc. & Speg.) Sacc. Massee **14** (xviii, 41); Grove **27** (lxviii, 98*); Bucknall **46** (iv, 203, 1885) as *Sphaeria*. On *Carex*.

— **dealbata** (Cooke) Berl. in **98** (i, 133*, 1893); *Xylosphaeria* Cooke in **14** (xv, 100, 1887); *Zignoella* Sacc. in *Syll.* ix, 867. On branches, Sussex.

— **Empetri** (Fr. p.p. ?) Sacc. *Sphaerulina* Cooke in **14** (xviii, 79); Massee **14** (xix, 44, 1890). On *Empetrum*. Massee perhaps gave this record in error for *Didymosphaeria Empetri*.

— **Hederae** (Sowerby ex Fr.) Sacc. in *Syll.* ii, 169; *Sphaeria* Sowerby in **42**, t. 371, 1802; Berk. **20**, 278; *Sphaerella* Cooke in **15**, 921; **46** (ii, 218); *Sphaerulina* Cooke in **14** (xviii, 79); **14** (xix, 44); **7**, 237. On *Hedera*.

— **helicicola** (Desm.) Sacc. *Sphaerulina* Cooke in **14** (xviii, 90); Massee **14** (xix, 44, 1890). On *Hedera*, Carlisle.

— **ocellata** (Niessl) Sacc. Grove **27** (1932, 6). On *Hypericum*, Pembroke. Grove previously **27** (1930, 98) placed this as a synonym of *Clypeosphaeria Hyperici*.

— **persistens** (Berk. & Br.) Sacc. in *Syll.* ii, 163; *Sphaeria* B. & Br. in **19**, No. 637*, 1852; Cooke **15**, 888; *Endophlaea* Cooke in **14** (xvii, 89); Massee **14** (xviii, 11). Berlese **98** (i, 146) found the type specimen sterile, but thought it a *Diaporthe*. On *Rosa*, King's Cliffe.

— **recutita** (Fr.) Sacc. Massee **14** (xviii, 41); Berk. **20**, 278, 1836 as *Sphaeria*; *Sphaerella* Cooke in **27** (iv, 252, 1866); **15**, 921, with note that the figure in **27** (iv) represents another fungus. On grass.

— **rubida** Bloxam ex Cooke in **14** (xx, 83, 1892); Sacc. xi, 335. On stems, Twycross.

— **rustica** (Karst.) Sacc. Grove **27** (lxxi, 285*, 1933). On *Spiraea*, Oscott College.

— **sabuletorum** (Berk. & Br.) Sacc. in *Syll.* ii, 180; Massee **14** (xviii, 41); *Sphaeria* B. & Br. in **19**, No. 650*, 1852; Cooke **15**, 905; Plowr. Exs. i, No. 91. On *Ammophila*.

— **sepincola** Berl. in **98** (i, 132), with the incorrect author citation "(B. & Br.) Sacc. p.p."; B. & Br. **19**, No. 636, 1852 in error as *Sphaeria sepincola* Fr. On *Cornus*. Transferred to *Sclerodothis* by Petrak in **102** (1921, 41). This fungus has been confused with *Saccothecium sepincola* (q.v.), to which some of the following records refer: Rhodes **108** (1933, 48); Cooke **15**, 888 as *Sphaeria*; Cooke Exs. 263; *Endophlaea* Cooke in **14** (xvii, 89); Massee **14** (xviii, 11).

— **Thwaitesii** (Berk. & Br.) Sacc. in *Syll.* ii, 161; Berl. **98** (i, 130*); Massee **14** (xviii, 41); *Sphaeria* B. & Br. in **19**, No. 646*, 1852; Cooke **15**, 906. On stems.

— **tritorulosa** (Berk. & Br.) Sacc. in *Syll.* ii, 157 (as "*bitorulosa*"); Massee **14** (xviii, 41); *Sphaeria* B. & Br. in **19**, No. 778*, 1854; Cooke **15**, 905. On *Epilobium*.

Saccothecium sepincola (Fr.) Fr. Kirschstein, *Krypt. Fl. Mark Brand.* vii, 425, 1938; Berk. **20**, 271, 1836 as *Sphaeria*. On *Cornus*. Von Höhnel **102** (1920, 97) transferred this to *Pringsheimia*, and Petrak **102** (1921, 37) agreed. Kirschstein revived *Saccothecium* Fr., mentioned by Berkeley in 1836. See *Metasphaeria sepincola* above.

Sphaerulina Alni A. L. Smith in **28** (vi, 151, 1918); Sacc. xxiv, 948. On *Alnus*, Scotland.

[**Sphaerulina intermixta** (Berk. & Br.) Sacc. in *Fungi Ital.* t. 347; *Syll.* II, 187; Grove **27** (LVII, 208, 1919); Rhodes **108** (1933, 48); *Sphaeria* B. & Br. in **19**, No. 639*, 1852; Cooke **15**, 889. On *Rosa*. See *Leptosphaeria abbreviata*. *Sphaeria intermixta* is placed by most modern authors as a synonym of *Sphaeria sepincola* Fr.]

— **intermixta** var. **abbreviata** Grove in **27** (XXIII, 161, 1885). On *Rubus*. (See *Leptosphaeria abbreviata*.). "Var. *Corni*" is mentioned by Bucknall **46** (V, 53, 1886).

— **intermixta** forma **valde-evoluta** Grove in **27** (LVII, 210*, 1919), on *Rosa*; Rhodes **108** (1933, 48), on *Rubus*.

— **Leightoni** (Berk. & Br.) Sacc. in *Syll.* II, 188; Massee **14** (XIX, 44); *Sphaeria* B. & Br. in **19**, No. 659*, 1852; *Sphaerella* Cooke in **27** (IV, 250*, 1866); **15**, 918. On *Linnaea*.

— **myriadea** (DC. ex Fr.) Sacc. Massee **14** (XIX, 44); *Sphaerella* Cooke in **27** (IV, 247*, 1866); **15**, 915; Vize Exs. 195; Cooke Exs. 172. On leaves of *Quercus*.

[— **Rehmiana** Jaap. The conidia only, *Septoria Rosae* Desm., known in Britain.]

— **Taxi** (Cooke) Massee in **5**, 220*, 1910; Sacc. XXII, 191; **94** (V, 93); **65** (XXX, 349); Callen **28** (XXII, 94*, with synonymy and references); *Sphaerella* Cooke in **31** (1878, 274); **14** (VI, 128); Sacc. I, 480; B. & Br. **19**, No. 2050, 1885; Cooke Exs. II, No. 697; Plowr. Exs. III, No. 90; Vize Exs. 600; Stevenson **13**, 404, 1879 as "*Sphaeria Taxi* Sow. . . . *Sphaeropsis* C. Hbk. No. 1252". On leaves of *Taxus*.

— **Trifolii** Rostrup. Kathleen Sampson **26**A (I, 15, 1922). On *Trifolium repens*, Wales.

Stuartella Carlylei Cooke & Massee in **14** (XIX, 86, 1891); Sacc. IX, 815. On wood, Carlisle, coll. Carlyle.

Zignoella collabens (Currey) Sacc. in *Syll.* II, 221; Berl. **98** (I, 100*); **28** (IV, 68); *Sphaeria* Currey in **45** (XXII, 320*, 1859); Cooke **15**, 864, with *S. Curreyi* Bloxam ex Currey (loc. cit.) as variety; *Psilosphaeria collabens* Stevenson in **13**, 386; Massee **14** (XVI, 117). On wood.

— **eutypoides** Sacc. Wheldon **28** (VI, 85); **115**, 35. On *Corylus*, Selby foray, 1918.

— **fallax** (Sacc.) Sacc. Grove **27** (LXXI, 284, 1933). On wood, Cheshire.

— **hysterioides** (Currey ex Cooke) Sacc. in *Syll.* IX, 866; *Conisphaeria* Currey ex Cooke in **14** (XVI, 92, 1888); Massee **14** (XVII, 4). On wood.

— **macrasca** Sacc. *Conisphaeria* Cooke in **14** (XVI, 88); Massee **14** (XVII, 4, 1888); **7**, 231. On wood.

— **poecilostoma** (Berk. & Br.) Sacc. in *Syll.* II, 220; *Sphaeria* B. & Br. in **19**, No. 876*, 1859; Cooke **15**, 870; Vize Exs. 174; Cooke Exs. 452 and II, No. 248; *Conisphaeria* Stevenson in **13**, 397; Massee **14** (XVII, 4); **46** (V, 132). On *Ulex*. Berlese **98** (I, 101) considered this to be *Lophiotrema praemorsum*.

— **pulviscula** (Currey) Sacc. in *Fungi Ital.* t. 297; *Syll.* II, 214; *Sphaeria* Currey in **45** (XXII, 320*, 1859); Cooke **15**, 864; *Psilosphaeria* Stevenson in **13**, 387, 1879; Massee **14** (XVI, 117); Bucknall **46** (V, 52); **7**, 229 as *Melanomma*. On wood. Berlese **98** (I, 98*) considered *Z. ovoidea* (Fr.) Sacc. an earlier name; see also **102** (XIV, 430; XVIII, 79).

— **rhodobapha** (Berk. & Br.) Sacc. in *Mich.* I, 347; *Syll.* II, 221; Berl. **98** (I, 95*); *Sphaeria* B. & Br. in **19**, No. 1334*, 1871; Bucknall **46** (III, 269); *Conisphaeria* Cooke in **14** (XVI, 87); Massee **14** (XVII, 4). On wood.

— **rhytidodes** (Berk. & Br.) Sacc. in *Mich.* I, 346; *Syll.* II, 217; *Sphaeria* B. & Br. in **19**, No. 873*, 1859; Cooke **15**, 862; *Psilosphaeria* Cooke in **14** (XVI, 61); **14** (XVI, 117). On *Fraxinus*. Berlese **98** (I, 101) thought it a *Melanomma*.

— **seriata** (Currey) Sacc. in *Syll.* II, 219; Berl. **98** (I, 95*); *Sphaeria* Currey in **45** (XXII, 329*, 1859); *Psilosphaeria* Cooke in **14** (XVI, 50); **14** (XVI, 117); *Sphaeria pusilla* Currey apud Berk. in **18**, 399, 1860; Cooke **15**, 889. On wood.

SPHAERIACEAE: PHAEOPHRAGMIAE

Aglaospora profusa (Fr.) de Not. Tul. **114** (II, 159); Berk. **20**, 249, 1836 as *Sphaeria*; Currey **45** (XXII, 277*); Berk. **18**, 389 as *Valsa*; Cooke **15**, 838; *Pseudovalsa* Cooke in **14** (XIV, 55); **14** (XV, 120). On *Robinia*, Blackheath Park. Petrak **102** (1923, 114) and **105** (1925, 222) calls this *Massaria anomia* (Fr.) Petrak.

Caryospora callicarpa (Currey) Nits. in Fuckel, *Symb. Myc.*; Sacc. II, 123; *Sphaeria* Currey in **45** (XXII, 321*, 1859); Cooke **15**, 870; *Amphisphaeria* Cooke in **14** (XVI, 90); **14** (XVII, 5). On wood, Kidbroke.

Chaetomastia canescens (Speg.) Berl. Wheldon **27** (LI, 189, 1912). On "fir posts", Lancs.

Chaetosphaeria callimorpha (Mont.) Sacc. B. & Br. **19**, No. 872, 1859 as *Sphaeria*; Cooke **15**, 859; *Lasiosphaeria* Stevenson in **13**, 391; *Byssosphaeria* Cooke in **14** (XV, 123); **14** (XVI, 36); **7**, 227; Plowr. Exs. II, No. 53 as *Sphaeria ruborum*. On *Rosa*.

— **cupulifera** (Berk. & Br.) Sacc. in *Syll.* II, 94; Massee **14** (XVI, 36); *Sphaeria* B. & Br. in **19**, No. 1333*, 1871; Bucknall **46** (II, 349); *Lasiosphaeria* Cooke & Plowr. in **14** (VII, 85). On *Ulmus*.

— **innumera** (Berk. & Br.) Tul. gen.nov. in **114** (II, 252*, 1863); Sacc. II, 95; B. & Br. **19**, No. 1728; Berl. **98** (I, 27*); *Sphaeria* B. & Br. apud Berk. in **18**, 395, 1860; Cooke **15**, 861; Plowr. Exs. II, No. 54; *Byssosphaeria* Cooke in **14** (XV, 123); **14** (XVI, 36); **7**, 227; *Lasiosphaeria* Stevenson in **13**, 391, 1879; Bucknall **46** (IV, 60). On wood.

— **phaeostroma** (Dur. & Mont.) Fuckel. B. & Br. **19**, No. 605, 1851 as *Sphaeria*; Currey **45** (XXII, 315*); Cooke **15**, 854; Cooke Exs. 454; Vize Exs. 171; Plowr. Exs. I, No. 62; *Byssosphaeria* Stevenson in **13**, 386; Massee **14** (XVI, 36); **7**, 227; *Sphaeria tristis* var. *β* Berk. in **20**, 260, 1836. On wood. Like *Calyculosphaeria tristis*, with which Berkeley at first confused it, always associated with species of Diatrypaceae.

— **pileoferruginea** Crouan. Massee **14** (XVI, 36, 1887); Cooke **14** (XVI, 47). On *Calluna*, Carlisle.

Clypeosphaeria Hyperici (Phill. & Plowr.) Sacc. in *Syll.* II, 92; *Sphaeria* Phill. & Plowr. in **14** (VIII, 108*, 1880); *Heptameria* Cooke in **14** (XVIII, 31); Massee **14** (XVIII, 60); *Metasphaeria* Grove in **27** (LXVIII, 98). On *Hypericum*. See *Metasphaeria ocellata*.

— **mamillana** (Fr.) Lambotte. Cooke **14** (I, 175, 1873) as *Sphaeria*; Plowr. Exs. III, No. 58; *Leptosphaeria* Cooke in **14** (XVII, 91); Massee **14** (XVIII, 12). On *Quercus*. See **105** (1925, 200) and next entry.

— **Notarisii** Fuckel. Massee **37** (1913, 197); *Leptosphaeria* Cooke in **14** (XVII, 91); Massee **14** (XVIII, 12); Berk. **20**, 270, 1836 as *Sphaeria clypeata* Nees; B. & Br. **19**, No. 888, 1859; Cooke **15**, 889; Bucknall **46** (III, 139); Plowr. Exs. I, No. 85 and III, No. 51. On *Rubus* and *Epilobium*. Rehm **102** (1909, 410) considered this a form of the preceding. See *Trematosphaeria melina*, *Leptosphaeria Tamaricis*, and next two entries.

Kalmusia hemitapha (Berk. & Br.) Sacc. in *Syll.* II, 143; *Sphaeria* B. & Br. in **19**, No. 885*, 1859; Cooke **15**, 878; *Xylosphaeria* Bucknall in **46** (III, 138); Massee **14** (XV, 9). On *Quercus*. Berlese **98** (I, 45) considered this and the next to be *Clypeosphaeria Notarisii*, but Traverso in *Flora Italica* does not accept all Berlese's determinations of *C. Notarisii*.

— **hypotephra** (Berk. & Br.) Sacc. in *Syll.* II, 144; *Sphaeria* B. & Br. in **19**, No. 624*, 1852; Cooke **15**, 878; Plowr. Exs. II, No. 62; *Xylosphaeria* Stevenson in **13**, 398; Massee **14** (XVIII, 9); Plowr. Exs. I, No. 54 issued as "*Cucurbitaria elongata* var. *simplex*", corrected to *Sphaeria hypotephra* in Cent. III. On *Quercus* and *Fagus*.

— **stromatica** Cooke & Massee in **14** (XX, 8, 1891); Sacc. XI, 331. On branches, Oxford.

Kalmusia surrecta (Cooke) Sacc. in *Syll.* II, 144; *Sphaeria* Cooke in **14** (V, 119, 1877); *Xylosphaeria* Cooke in **14** (VII, 86). On wood of *Pinus*, Surrey. Berlese **98** (I, 34*) considered this a *Melanomma*.

Leptosphaeria abbreviata (Cooke) Sacc. in *Syll.* II, 26; Massee **14** (XVIII, 12); *Sphaeria* Cooke in **27** (IV, 102, 1866); **15**, 893. On *Rubus*. Berlese **98** (I, 87) thought the type to be *Sphaerulina intermixta*, and Grove **27** (LVII, 209) reached the same conclusion by assuming that Cooke had mistakenly called the spores brown. Petrak **102** (1921, 38) suggested *L. Coniothyrium* from the description.

— **acuta** (Hoffm. ex Fr.) Karst. Hodgetts **32** (XVI, 139; XXXII, 178, spore discharge); Cooke **15**, 901 as *Sphaeria*; Cooke Exs. 265 and II, No. 254; Plowr. Exs. I, No. 89; Vize Exs. 187; *Heptameria* Cooke in **14** (XVIII, 31); Massee **14** (XVIII, 58); Greville **39**, t. 239, 1826 as *Sphaeria coniformis* Fr.; Berk. **19**, No. 190, 1841; Currey **45** (XXII, 330*). Common on stems of *Urtica*.

— **agnita** (Desm.) Ces. & de Not. Cooke **15**, 903, 1871 as *Sphaeria*; Bucknall **46** (III, 69); Cooke Exs. 277 and II, No. 255; Plowr. Exs. II, No. 80; *Heptameria* Cooke in **14** (XVIII, 31); Massee **14** (XVIII, 58). On *Eupatorium*.

— **Aparines** (Fuckel) Sacc. "*Sphaeria aparinae* Fuckel" [n. comb.] Phill. & Plowr. in **14** (VI, 27, 1877); Plowr. Exs. III, No. 82; *Heptameria* Cooke in **14** (XVIII, 30); Massee **14** (XVIII, 58). On *Galium Aparine*, Norfolk. Berlese **98** (I, 68*) figured Cooke Exs. II, No. 690.

— **arundinacea** (Sowerby ex Fr.) Sacc. in *Fungi Ven.* Ser. II, 320; *Syll.* II, 62; *Sphaeria* Sowerby in **42**, t. 336, 1801; Berk. **20**, 256; B. &. Br. **19**, No. 603, 1851; Currey **45** (XXII, 285*); Cooke **15**, 875; Berk. Exs. 82; Plowr. Exs. II, No. 61; Cooke Exs. 675; *Heptameria* Cooke in **14** (XVIII, 32); Massee **14** (XVIII, 59). On *Phragmites*. Grove **1** (I, 117) placed *Sphaeria arundinacea* Sowerby under *Phoma*. Berlese **98** (I, 69*) figured a specimen from Plowright, Thüm. in Myc. Univ. No. 1256.

— **arundinacea** var. **Godini** (Desm.) Sacc. Bucknall **46** (V, 53, 1886); Currey **45** (XXII, 285*, 1858) as *Sphaeria Godini* Desm. On grasses.

— **caninae** (Phill. & Plowr.) Sacc. in *Syll.* II, 81; *Sphaeria* Phill. & Plowr. in **14** (VI, 27*, 1877); *Psilosphaeria* Cooke & Plowr. in **14** (VII, 84, 1879); *Heptameria* Cooke in **14** (XVIII, 31); Massee **14** (XVIII, 60). On *Peltigera canina*, Dunsley. Transferred to *Phaeospora* by Vouaux in **117** (1913, 74).

— **Chondri** (Rostr.) Rosenv. Cotton **28** (III, 93, 1909). On *Chondrus crispus*, Dorset. Lind (*Danish Fungi*, p. 214) uses the name *Didymosphaeria marina* (Rostr.) Lind.

— **circinans** (Fuckel) Sacc. Massee **27** (XLVI, 151, 1908). On *Medicago*, Kent. *Rhizoctonia violacea* [*R. Crocorum* (Pers.) DC. ex Fr.] was erroneously thought by some continental authors to be a stage of this species.

— **clara** (Auersw. ex Cooke) Sacc. in *Syll.* II, 73; *Sphaeria* Auersw. ex Cooke in **14** (V, 121, 1877); *Heptameria* Cooke in **14** (XVIII, 32); Massee **14** (XVIII, 59). On *Festuca*.

— **clivensis** (Berk. & Br.) Sacc. in *Syll.* II, 16; Berl. **98** (I, 63*); Grove **27** (LX, 173); *Sphaeria* B. & Br. in **19**, No. 643*, 1852; Currey **45** (XXII, 331*, 1859); Cooke **15**, 897; Cooke Exs. 386; Plowr. Exs. III, No. 60; *Heptameria* Cooke in **14** (XVIII, 30); Massee **14** (XVIII, 58). On stems. See *L. Galiorum*.

— **Coniothyrium** (Fuckel) Sacc. Reported **65** (XXX, 340); **77** (1928–30, II, 135; 1931, 48); **79** (I, 30); **22** (Bull. 79, p. 83 and 98, 1934, ascospores found); **71** (XL, 49, 1931, Ireland). On *Rubus*.

— **conoidea** (de Not.) Sacc. *Heptameria* Cooke in **14** (XVIII, 29); Massee **14** (XVIII, 57); Cooke **15**, 902, 1871 as *Sphaeria doliolum* var. *conoidea*. On herbs, Surrey. *S. Helenae* Currey in **45** (XXII, 331*, 1859) is placed here by Cooke.

— **Cookei** Pirotta. Sacc. II, 28; Massee **14** (XVIII, 12); **7**, 234; Cooke Exs. 618 and II, No. 14, p.p., as *Phoma Vitis*. On *Vitis*, Terrington.

— **cruenta** Sacc. Grove **27** (XXIII, 161, 1885). On *Carduus*, Staffs. Grove later **27** (LXVIII, 97) thought it might be the same as *L. purpurea* Rehm.

Leptosphaeria culmicola (Fr.) Karst. Bucknall **46** (v, 128* and 132, 1887) as *Sphaeria*; *Heptameria* Cooke in **14** (xviii, 32); Massee **14** (xviii, 59). On grasses. See Grove **27** (1922, 173).

— **culmifraga** (Fr.) Ces. & de Not. Berk. **20**, 275, 1836 as *Sphaeria*; B. & Br. **19**, No. 614, 1851; Cooke **15**, 875; Vize Exs. 191; Cooke Exs. 676; *Heptameria* Cooke in **14** (xviii, 32); Massee **14** (xviii, 59); *S. longa* Sowerby in **42**, t. 393, 1803. On grasses.

— **densa** Bres. Grove **27** (lxxi, 280, 1933). On *Acorus*, Worcs.

— **derasa** (Berk. & Br.) Thüm. in Myc. Univ. No. 269; Sacc. ii, 41; Berl. **98** (i, 82*); Hawley **28** (ix, 239); *Sphaeria* B. & Br. in **19**, No. 639*, 1852; Cooke **15**, 904; Plowr. Exs. i, No. 90; Vize Exs. 179; Cooke Exs. 491 and ii, No. 249; *Heptameria* Cooke in **14** (xviii, 31); Massee **14** (xviii, 58). On *Senecio*.

— **dioica** (Fr.) Sacc. Berk. **20**, 253, 1836 as *Sphaeria*; Cooke **15**, 873; *Psilosphaeria* Stevenson in **13**, 388; Bucknall **46** (v, 132, 1882); *Cucurbitaria* Cooke in **14** (xv, 85); Massee **14** (xvi, 34). On *Acer*, etc. Berlese **98** (i, 87) considered British specimens to be *Thyridaria*.

— **dolioloides** (Auersw.) Karst. Grove **27** (lxviii, 73, *L. pellita* Sacc. considered a synonym); Rhodes **108** (1933, 48); Bucknall **46** (v, 128* and 132, 1887) as *Sphaeria* [n. comb. ?]. On herbs. Grove proposed f. *Tanaceti* and f. *Achilleae*, Worcs.

— **doliolum** (Pers. ex Fr.) de Not. Hawley **28** (ix, 239); Hooker **92**, 7, 1821 as *Sphaeria*; Berk. **20**, 275; Currey **45** (xxii, 329*; xxv, 259); Cooke **15**, 902; Berk. Exs. 290; Baxter Exs. 31; Vize Exs. 178; Cooke Exs. 489 and ii, No. 495; Plowr. Exs. ii, No. 79; *Heptameria* Cooke in **14** (xviii, 29); Massee **14** (xviii, 57); *Cryptosphaeria* Greville in **39**, t. 239, 1826. Common on stems.

— **dumetorum** Niessl. Recorded with doubt by Grove **27** (1932, 4) on *Serratula*, Worcs.

— **duplex** (Sowerby ex Fr.) Sacc. in *Syll.* ii, 87; *Sphaeria* Sowerby in **42**, t. 375, 1803; Berk. **20**, 277; Cooke **15**, 909; *Heptameria* Cooke in **14** (xviii, 31); Massee **14** (xviii, 59). On *Sparganium*.

— **echinella** (Cooke) Thüm. in Myc. Univ. No. 266; Sacc. ii, 88; *Sphaeria* Cooke in **15**, 906, 1871; Plowr. Exs. iii, No. 62; Cooke Exs. 267 and ii, No. 256; *Heptameria* Cooke in **14** (xviii, 30); Massee **14** (xviii, 58). On *Atriplex*. Berlese **98** (ii, 33*) found Cooke Exs. ii, No. 256 to be a *Pyrenophora*.

— **epicalamia** (Riess) Ces. & de Not. Massee **14** (xviii, 59, 1890); Grove **27** (lxxi, 281); Rhodes **108** (1933, 48). On *Luzula*, etc.

— **epicarecta** (Cooke) Sacc. in *Syll.* ii, 65; *Sphaeria* Cooke in **14** (v, 120, 1877); *Heptameria* Cooke in **14** (xviii, 32); Massee **14** (xviii, 59). On *Carex*, Shere.

— **Fuckelii** Niessl apud Voss. Grove **27** (liv, 186*, 1916). On *Phalaris*, Warwicks.

— **fuscella** (Berk. & Br.) Ces. & de Not. in *Schema*, p. 236; Sacc. ii, 30; Berl. **98** (i, 65*); Massee **14** (xviii, 12); *Sphaeria* B. & Br. in **19**, No. 636*, 1852; Currey **45** (xxii, 327*); Cooke **15**, 892. On *Rosa*.

— **Galiorum** Sacc. Bucknall **46** (v, 128* and 132, 1887) as *Sphaeria* [n. comb.?]. On *Galium*, near Bristol.

— **Galiorum** f. **Dipsaci** Grove in **27** (lvi, 286*, 1918); Rhodes **108** (1933, 48). On *Dipsacus* near Droitwich. Grove later **27** (1922, 173) decided that all forms of *L. Galiorum* are *L. clivensis*.

— **gloeospora** (Berk. & Currey) Sacc. in *Syll.* ii, 25; *Sphaeria* Berk. & Currey in **19**, No. 980*, 1861; Cooke **14**, 898; *Heptameria* Cooke in **14** (xviii, 30); Massee **14** (xviii, 58). On *Artemisia*, Fleetwood. Berlese **98** (i, 87) found the type specimen too old for study.

— **graminis** (Fuckel) Sacc. *Heptameria* Cooke in **14** (xviii, 32); Massee **14** (xviii, 59); *Sphaeria* Phill. & Plowr. in **14** (viii, 108, 1880); Bucknall **46** (iii, 270); Plowr. Exs. iii, No. 83. On *Phragmites*.

— **haematites** (Rob.) Niessl. Rilstone **27** (1935, 102). On *Clematis*, Cornwall.

— **heterospora** (de Not.) Niessl. Pethybridge **22** (Bull. 79, p. 111, 1934). On *Iris*, Surrey.

Leptosphaeria juncina (Auersw.) Sacc. Cooke **14** (v, 121, 1877) as *Sphaerella*; Bucknall **46** (v, 54); Cooke Exs. II, No. 569; Plowr. Exs. III, No. 92; *Heptameria* Cooke in **14** (XVIII, 32); Massee **14** (XVIII, 59). On *Juncus*.

— **Lemaneae** (Cohn & Woron.) Sacc. Berl. **98** (I, 59*); Brierley, *Mem. Lit. Phil. Soc. Manchester* 57, No. 8, 1913; *Heptameria* Cooke in **14** (XVIII, 31, 1889); Massee **14** (XVIII, 60); *Sphaeria fluviatilis* Phill. & Plowr. in **14** (X, 73, 1881); **14** (XIII, 77); *Leptosphaeria fluviatilis* Sacc. in *Syll.* II, 84. On *Lemanea*.

— **littoralis** Sacc. Grove **27** (LXVIII, 73*, 1930). On *Ammophila*, Wales.

— **lucina** Sacc. Grove **27** (XXIII, 132, 1885). On *Cytisus*, Warwicks.

— **Lunariae** (Berk. & Br.) Sacc. in *Syll.* II, 57; von Höhnel *Frag. Myk.* No. 713; *Sphaeria* B. & Br. in **19**, No. 892*, 1859; Cooke **15**, 897; *Heptameria* Cooke in **14** (XVIII, 31); Massee **14** (XVIII, 58). On *Lunaria*. Berlese **98** (I, 56) transferred it to *L. eustoma* (Fr.) Sacc. as a form.

— **maculans** (Desm.) Ces. & de Not. B. & Br. **19**, No. 1727, 1878 as *Sphaeria*; Stevenson **13**, 404; *Heptameria* Cooke in **14** (XVIII, 30); Massee **14** (XVIII, 58); B. & Br. **19**, No. 1178, 1866 as *S. Alliariae* Auersw.; Cooke **27** (IV, 103*, 1866); **15**, 903; Plowr. Exs. II, No. 81; Rhodes **108** (1933, 48) as *L. Alliariae*. On Crucifers.

— **maritima** (Cooke & Plowr.) Sacc. in *Syll.* II, 73; Berl. **98** (I, 73*); *Sphaeria* Cooke & Plowr. in **14** (V, 120, 1877); Cooke Exs. II, No. 570; *Heptameria* Cooke in **14** (XVIII, 32); Massee **14** (XVIII, 59). On *Juncus*, N. Wootton.

— **marram** (Cooke) Sacc. in *Syll.* II, 60; Berl. **98** (I, 60*); *Sphaeria* Cooke in **14** (V, 120, 1877); Cooke Exs. II, No. 574; Bucknall **46** (IV, 150); *Heptameria* Cooke in **14** (XVIII, 31); Massee **14** (XVIII, 59). On *Ammophila*.

— **Michotii** (Westend.) Sacc. Bucknall **46** (V, 53*, 1886, on *Berberis*); **71** (XXI, 7; Ireland); Cooke **14** (V, 119, 1877) as *Sphaeria*; Cooke Exs. II, No. 573; Plowr. Exs. III, No. 67; *Heptameria* Cooke in **14** (XVIII, 31); Massee **14** (XVIII, 58). On sedges and grasses. Plowr. Exs. III, No. 68 was issued as "f. *graminis*".

— **microscopica** Karst. Bucknall **46** (V, 48* and 53, 1886); Grove **27** (1912, 49; 1916, 192); Hawley **28** (IX, 239); *Heptameria* Cooke in **14** (XVIII, 31); Massee **14** (XVIII, 58); O'Connor **70** (XXI, 398) as *L. culmorum* Auersw.; Rilstone **27** (1935, 102). On grasses.

— **modesta** (Desm.) Karst. O'Connor **70** (XXI, 398, 1936, Ireland); B. & Br. **19**, No. 644*, 1852 as *Sphaeria*; Cooke **15**, 905. On *Scrophularia*.

— **Nardi** (Fr.) Ces. & de Not. Berl. **98** (I, 75*); Cooke **14** (V, 120, 1877) as *Sphaeria*; Stevenson **13**, 405; Bucknall **46** (III, 139); Cooke Exs. II, No. 571; *Heptameria* Cooke in **14** (XVIII, 32); Massee **14** (XVIII, 59). On *Nardus*.

— **nectrioides** Speg. Bucknall **46** (V, 48* and 53, 1886). On *Clematis*, Bristol.

— **Niessleana** Rabenh. Listed by Rilstone **27** (1935, 102) on *Lathyrus*, Cornwall.

— **Niessleana** f. **Viciae** Grove in **27** (LXVIII, 74, 1930, thought perhaps to be *L. Endiusae* (Fuckel) Sacc.); Rhodes **108** (1933, 48). On *Vicia*.

— **nigrans** (Desm.) Ces. & de Not. B. & Br. **19**, No. 640*, 1852 as *Sphaeria*; Cooke **15**, 904; Bucknall **46** (III, 70); *Heptameria* Cooke in **14** (XVIII, 32); Massee **14** (XVIII, 59). On grass.

[— **nigrella** (Rabenh.) Sacc. *Heptameria* Cooke in **14** (XVIII, 30); Massee **14** (XVIII, 58). On *Angelica*. A mistaken compilation by Massee of *Didymella nigrella*.]

— **norfolcia** (Cooke) Sacc. in *Syll.* II, 73; Berl. **98** (I, 76*); *Sphaeria* Cooke in **14** (V, 120, 1877); *Heptameria* Cooke in **14** (XVIII, 32); Massee **14** (XVIII, 89). On *Eleocharis* and *Juncus*.

— **Obiones** (Crouan) Sacc. f. **evolutior** Grove in **27** (LXXI, 281*, 1933). On *Atriplex* (*Obione*), Cornwall.

— **octophragmia** Trav. & Frag. var. **major** Grove in **27** (LXXI, 282, 1933). On *Lippia citriodora* (cult.), Cornwall.

— **Ogilviensis** (Berk. & Br.) Ces. & de Not. in *Schema*, p. 61; Sacc. II, 34; *Sphaeria* B. & Br. in **19**, No. 642*, 1852; Cooke **15**, 905; Bucknall **46** (IV, 60); Vize Exs. 499; *Heptameria* Cooke in **14** (XVIII, 30); Massee **14** (XVIII, 58). On stems. Von Höhnel (*Frag. Myk.* No. 713) considered this a synonym of *L. rubellula* (Desm.) von Höhnel.

Leptosphaeria Parmeliarum (Phill. & Plowr.) Sacc. in *Syll.* II, 83; Berl. **98** (I, 61*); *Sphaeria* Phill. & Plowr. in **14** (IV, 124*, 1876); Plowr. Exs. III, No. 52; *Psilosphaeria* Cooke & Plowr. in **14** (VII, 84); *Melanomma* Cooke in **14** (XVI, 53); Massee **14** (XVI, 118); *Heptameria* Cooke in **14** (XVIII, 33); Massee **14** (XVIII, 60). On *Parmelia*, Dolgelly. Vouaux **117** (XXIX, 75, 1913) transferred this to *Phaeospora*. See Keissler **119**, 430.

— **pellita** (Rabenh. & Klotz.) Sacc. Grove **27** (LXVIII, 73) considered the same as *L. dolioloides*); Currey **45** (XXII, 331*, 1859) as *Sphaeria*; Cooke **15**, 902; Bucknall **46** (II, 218); *Heptameria* Cooke in **14** (XVIII, 31); Massee **14** (XVIII, 58). On *Atriplex*.

— **pellita** var. **cirsiicola** Grove in **27** (LIV, 186, 1916). On *Cirsium*. Ireland.

— **personata** Niessl. *Heptameria* Cooke in **14** (XVIII, 31, 1889); Massee **14** (XVIII, 58); Plowr. Exs. III, No. 84 as *Sphaeria* [n. comb.?]. On *Glyceria*, Norfolk.

— **Phormii** Grove in **37** (1921, 150); **27** (LX, 173, 1922). On *Phormium*, Scotland.

— **pontiformis** (Fuckel) Sacc. Cooke **14** (V, 120, 1877) as *Sphaeria*; *Heptameria* Cooke in **14** (XVIII, 32); Massee **14** (XVIII, 59). On grasses, Norfolk.

— **praetermissa** (Karst.) Sacc. Stevenson **40** (VII, 114, 1884) as *Sphaeria*; Phill. & Plowr. **14** (XIII, 77). On *Rubus*, Scotland.

— **purpurea** Rehm. Grove **27** (LXVIII, 97, 1930) with suggested synonyms. On *Cirsium*, Worcs. See *Pleospora rubicunda*.

— **rubelloides** (Plowr.) Sacc. in *Syll.* II, 77; *Sphaeria* Plowr. apud Cooke in **14** (V, 120, 1877); Bucknall **46** (IV, 60); *Heptameria* Cooke in **14** (XVIII, 32); Massee **14** (XVIII, 59). Type on *Agropyron repens*, Norfolk. Berlese **98** (I, 84) thought it a synonym of *L. culmifraga*.

— **rubicunda** Rehm in Wint. Grove **27** (L, 49, 1912); Hawley **28** (IX, 239). On stems.

— **Rusci** (Wallr.) Sacc. A. Lorrain Smith & Ramsbottom **28** (V, 240); **70** (XXI, 398); B. & Br. **19**, No. 639, 1852 as *Sphaeria*; Currey **45** (XXII, 329*); Cooke **27** (IV, 249*, 1866) as *Sphaerella*; **15**, 918; Berk. Exs. 86; Cooke Exs. 166 and II, No. 267; Plowr. Exs. I, No. 96; Vize Exs. 96; *Heptameria* Cooke in **14** (XVIII, 32); Massee **14** (XVIII, 59); *Cryptosphaeria glaucopunctata* Greville in **51**, 362, 1824; *Sphaeria glaucopunctata* Currey in **45** (XXII, 333*, 1859); Berk. **20**, 272, 1836 as *S. atrovirens* var. *Rusci* Fr. On *Ruscus*.

— **Sowerbyi** (Fuckel) Sacc. in *Syll.* II, 78; *Heptameria* Cooke in **14** (XVIII, 32); Massee **14** (XVIII, 60); "*Sphaeria maculans*" in **42**, t. 394, 1802; B. & Br. **19**, No. 641, 1852; Cooke **15**, 894. On *Scirpus*. See Petrak **105** (1925, 220).

— **Tamaricis** (Greville) Sacc. in *Syll.* II, 26; Massee **14** (XVIII, 12); Rilstone **27** (1935, 102); "*Cryptosphaeria Tamariscinis*" Greville in **39**, t. 45, 1823; **51**, 361; *Sphaeria* Greville in **39**, Index; Berk. **20**, 270; Currey **45** (XXII, 324*); Cooke **15**, 893. On *Tamarix*. Berlese **98** (I, 87) found the type specimen to be *Clypeosphaeria Notarisii*.

— **triglochinicola** (Currey) Sacc. in *Syll.* II, 69; *Sphaeria* Currey in **45** (XXIV, 158*, 1863); B. & Br. **19**, No. 1100, 1865; Cooke **15**, 906; *Heptameria* Cooke in **14** (XVIII, 32); Massee **14** (XVIII, 59). On *Triglochin palustre*, Sussex.

— **Typharum** (Desm.) Karst. *Heptameria* Cooke in **14** (XVIII, 32, 1889); Massee **14** (XVIII, 59). On *Typha*.

— **Typharum** f. **Acori** Grove in **27** (LXVIII, 97, 1930). On *Acorus*, Worcs.

— **uliginosa** (Phill. & Plowr.) Sacc. in *Syll.* II, 47; *Sphaerella* Phill. & Plowr. in **14** (X, 74, 1881). On *Stellaria*, Scotland.

— **vagabunda** Sacc. Bucknall **46** (V, 48* and 53, 1886); **14** (XVIII, 12); **28** (III, 42); **27** (LVIII, 239); **34** (VII, 189). On *Pyrus*, etc.

— **vectis** (Berk. & Br.) Ces. & de Not. in *Comm. Soc. Crittog. Ital.* I, 236; Sacc. II, 74; *Sphaeria* B. & Br. in **19**, No. 779*, 1854; Cooke **15**, 904; Vize Exs. 494; Cooke Exs. 677 and II, No. 251; Plowr. Exs. III, No. 61; *Heptameria* Cooke in **14** (XVIII, 32); Massee **14** (XVIII, 59). On *Iris*.

Massaria argus (Berk. & Br.) Fresen. in *Beitr. Mycol.* p. 59; Tul. **114** (II, 227); Sacc. II, 7; Cooke **15**, 844; Massee **14** (XVIII, 9); Exs. from Broome in Rabenh. *Herb. Mycol.* III, No. 259, 1860; *Sphaeria* B. & Br. in **19**, No. 626*, 1852; Currey **45** (XXII, 325*). On *Betula*.

Massaria Corni (Fr. & Mont.) Sacc. Currey **45** (xxii, 326*, 1859) as *Sphaeria gigaspora* Desm.; Berk. **18,** 398, 1860; Cooke Exs. 257; Massee **14** (xviii, 9) in error as *Massaria gigaspora* Fuckel. On *Cornus*.

— **foedans** (Fr.) Fr. emend. Fuckel. Cooke **15,** 845, 1871; Massee **14** (xviii, 9); Plowr. Exs. ii, No. 48; *Sphaeria amblyospora* B. & Br. in **19,** No. 627*, 1852; Currey **45** (xxii, 326*); **68**A (iv, 198*). On *Ulmus*.

— **inquinans** (Tode ex Fr.) Fr. Berk. **18,** 402, 1860; Cooke **15,** 846, p.p.; Massee **14** (xviii, 9); Cooke Exs. 251; Plowr. Exs. ii, No. 48; Berk. **20,** 269, 1836 as *Sphaeria*; Currey **45** (xxii, 327*); *S. ellipsosperma* Sowerby in **42,** t. 372, 1802. On *Acer*.

— **macrospora** (Desm.) Sacc. Massee **14** (xviii, 9); Currey **68**A (vii, 333*, 1859) as *Sphaeria*; *Cucurbitaria* Tul. in **114** (ii, 221); Cooke **15,** 841; Plowr. Exs. ii, No. 45; *Melogramma oligosporum* B. & Br. in **19,** No. 895*, 1859; **19,** No. 971; Berk. **18,** 391. On bark.

— **pupula** (Fr.) Tul. in **114** (ii, 225); Cooke **15,** 845; Massee **14** (xviii, 9); Bucknall **46** (iv, 202); *Hercospora* Berk. in **18,** 402, 1860. On *Philadelphus*.

Melanomma Aspegrenii (Fr.) Fuckel. B. & Br. **19,** No. 879*, 1859 as *Sphaeria*; Cooke **15,** 870; *Conisphaeria* Stevenson in **13,** 397; *Cucurbitaria* Cooke in **14** (xv, 85); Massee **14** (xvi, 34). On *Prunus*.

— **brachythele** (Berk. & Br.) Sacc. in *Syll.* ii, 111; *Sphaeria* B. & Br. in **19,** No. 877*, 1859; Cooke **15,** 871; *Amphisphaeria* Cooke in **14** (xvi, 89); Massee **14** (xvii, 5). On *Sambucus*. Berlese **98** (i, 38) considered the type specimen to be an *Amphisphaeria*.

— **Epochnii** (Berk. & Br.) Sacc. in *Mich.* i, 344; *Syll.* ii, 104; *Sphaeria* B. & Br. in **19,** No. 1177*, 1866; Cooke **15,** 865; Vize Exs. 498; Plowr. Exs. iii, No. 49; *Byssosphaeria* Cooke in **14** (xv, 123); Massee **14** (xvi, 36). On *Corticium*. Von Höhnel (*Mitteil. Bot. Inst. Tech. Hochs. Wien,* vi, 54, 1929) considered this to be *Naetrocymbe fuliginea* Koerb.

— **fuscidulum** Sacc. Bucknall **46** (v, 52, 1886); Chesters **28** (xxii, 122*); *Sphaeria* [n.comb.?] Phill. & Plowr. in **14** (x, 73, 1881). On wood.

— **Jenynsii** (Berk. & Br.) Sacc. in *Syll.* ii, 101; *Sphaeria* B. & Br. in **19,** No. 875*, 1859; Cooke **15,** 870; *Conisphaeria* Stevenson in **13,** 397; *Amphisphaeria* Cooke in **14** (xvi, 89); Massee **14** (xvii, 5). On wood. Berlese **98** (i, 38) considered this to be a *Lophiotrema* near *L. praemorsum*.

— **longicolle** Sacc. Grove **27** (xxiv, 132, 1886). On *Acer*, Warwicks.

— **medium** Sacc. & Speg. Massee **37** (1909, 374 as "*M. nudum*"). On *Tamarix*.

— **obliterans** (Berk. & Br.) Sacc. in *Syll.* ii, 101; *Sphaeria* B. & Br. in **19,** No. 890*, 1859; Cooke **15,** 874; *Conisphaeria* Stevenson in **13,** 398; *Amphisphaeria* Cooke in **14** (xvi, 89); Massee **14** (xvii, 5); *Zignoella* Berlese in **98** (i, 96). On "fir poles".

— **Pulvis-pyrius** (Pers. ex Fr.) Fuckel. Massee **14** (xvi, 118); **7,** 229; Chesters **113** (1935, 105*) and **28** (xxii, 116*), considered to be the best lectotype of the genus; Hooker **92,** 8, 1821 as *Sphaeria*; Greville **39,** t. 152, 1825; Berk. **20,** 265; B. & Br. **19,** No. 622, 1852; Currey **45** (xxii, 317*); Cooke **15,** 865; Cooke Exs. 379 and ii, No. 488; Vize Exs. 177; Plowr. Exs. i, No. 72; *Psilosphaeria* Stevenson in **13,** 387, 1879; *Cucurbitaria conglobata* "Klot." apud Cooke in **14** (xv, 85); **14** (xvi, 34) as *C. conglobata* "Fr."; see Chesters, loc. cit. Common on wood and bark.

— **pyriostictum** Cooke in **14** (xv, 83, 1887); Sacc. ix, 808; Massee **14** (xvi, 118). On wood, Twycross.

— **Rhododendri** Rehm. *Sphaeria* Phill. & Plowr. in **14** (viii, 108, 1880); Plowr. Exs. iii, No. 47. On *Rhododendron*, the Wrekin.

— **Stevensonii** (Berk. & Br.) Sacc. in *Syll.* ii, 104; Massee **14** (xvi, 118); *Sphaeria* B. & Br. in **19,** No. 1728, 1878 and No. 1926, 1881; Cooke **14** (x, 52); *Psilosphaeria* Cooke & Plowr. in **14** (vii, 84, 1879); Stevenson **13,** 388; Bucknall **46** (iv, 60, 1883); *Ceratostomella* Sacc. in *Syll.* i, 412; Massee **14** (xvii, 73). On wood. Berlese **98** (i, 38) thought the type specimen might be *Physalospora*; the specimen in Herb. Kew. is *Trichosphaeria myriocarpa*.

Melanomma vile (Fr.) Fuckel. Berk. **19**, No. 184, 1841 as *Sphaeria*; Cooke **15**, 871; *Conisphaeria* Stevenson in **13**, 397, 1879; *Strickeria* Cooke in **14** (xvi, 54); Massee **14** (xvi, 119); **7**, 230. On wood.

Melogramma elongatum A. L. Smith in **28** (vi, 150, 1919); Sacc. xxiv, 1016. On wood, Scotland.

— **spiniferum** (Wallr.) de Not. Boodle & Dallimore **37** (1911, 338 and 342); A. Lorrain Smith **28** (vi, 150); **70** (xxi, 399); B. & Br. **19**, No. 600, 1851 as *Sphaeria podoides* Pers.; Currey **45** (xxii, 271*); Cooke **15**, 817 as *Diatrype podoides*. On *Fagus*.

— **vagans** de Not. Massee **14** (xv, 39); Currey **45** (xxii, 284*, 1858 as *Sphaeria melogramma*; Berk. **18**, 391 as *M. fusisporum*; Cooke **15**, 801 as *M. Bulliardi*; Cooke Exs. ii, No. 673. On *Carpinus*.

Ohleria obducens Wint. Phill. & Plowr. **14** (vi, 27, 1877); Bucknall **46** (v, 52); Plowr. Exs. iii, No. 66 as *Sphaeria*. On *Ulmus*. Berlese **98** (i, 28) considered "Phillips Fungi Brit. Exs." to be *O. rugulosa* Fuckel.

Pseudovalsa aglaeostoma (Berk. & Br.) Sacc. in *Syll.* ii, 137; *Valsa* B. & Br. in **19**, No. 862*, 1859; Cooke **15**, 838; Massee **14** (xv, 119); Bucknall **46** (iv, 202). On *Ulmus*. Berlese **98** (i, 49) considered the type specimen to be a *Calospora*.

— **aucta** (Berk. & Br.) Sacc. in *Syll.* ii, 138; Berl. **98** (i, 48*); Massee **14** (xv, 120); *Sphaeria* B. & Br. in **19**, No. 628*, 1852; Cooke **15**, 887; *Calospora* Fuckel in *Symb. Myc.* p. 191; *Cryptospora* Tul. in **114** (ii, 152). On *Alnus*.

— **Berkeleyi** (Tul.) Sacc. in *Syll.* ii, 137; *Melanconis* Tul. in *Comp. Rend.* xlii, 703, 1856; **114** (ii, 130); Cooke **15**, 819; *Sphaeria inquinans* var. *Ulmi* B. & Br. in **21** (1851, 320*). On *Ulmus*. Berlese **98** (i, 48) and Oudemans referred this to *P. convergens*. Petrak **102** (1923, 324) named it *Prosthecium inquinans* (B. & Br.) Petrak.

— **convergens** (Tode ex Fr.) Sacc. Massee **14** (xv, 120); Sowerby **42**, t. 374, 1802 as *Sphaeria*; Berk. **20**, 252; Currey **45** (xxii, 280*); Cooke **15**, 836 as *Valsa*. On *Platanus*.

— **fusca** Bucknall in **46** (v, 46* and 51, 1886); Sacc. ix, 820. On *Acer*.

— **hapalocystis** (Berk. & Br.) Sacc. in *Mich.* i, 44; *Syll.* ii, 138; Massee **14** (xv, 120); *Sphaeria* B. & Br. in **19**, No. 615*, 1852; Cooke **15**, 839 as *Valsa*; Cooke Exs. 253 and ii, No. 229. On *Platanus*. Petrak **102** (1923, 324) transferred this to *Prosthecium*.

— **lanciformis** (Fr.) Ces. & de Not. Massee **14** (xv, 120); **7**, 224; Chesters **113** (1935, 104*); Berk. **20**, 243, 1836 as *Sphaeria*; Currey **45** (xxii, 272*) and **66** (cxlvii, 551*); Cooke **15**, 820 as *Melanconis*; Plowr. Exs. ii, No. 24; *S. betulina* Sowerby in **42**, t. 371, 1802; Rhodes **108** (1933, 49) as *Pseudovalsa Betulae* ([Schum.]) Schroet. On *Betula*.

— **longipes** (Tul.) Sacc. Massee **14** (xv, 120); **7**, 224; *Melanconis* Tul. in **114** (ii, 139); Cooke **15**, 820; Plowr. Exs. ii, No. 25; Berk. **20**, 243, 1836 as "*Sphaeria quercina*"; Currey **45** (xxii, 272); see Tul. **114** (ii, 98); B. & Br. **19**, No. 839, 1859 as "*Diatrype quercina*"; *Stromatosphaeria quercina* Grev. p.p. in **51**, 358, 1824; *Sphaeria arcuata* Currey in **45** (xxii, 281*). On *Quercus*. See also *Diatrypella quercina*.

— **umbonata** (Tul.) Sacc. Massee **14** (xv, 120, 1887). On *Quercus*, Kew. Wehmeyer **100** (xviii, 267) regards this as a syn. of *P. lanciformis*.

Rebentischia unicaudata (Berk. & Br.) Sacc. in *Nuovo Giorn. Bot. Ital.* viii, 12; *Syll.* ii, 12; Berl. **98** (i, 29); *Sphaeria* B. & Br. in **19** No. 886*, 1859; Cooke **15**, 892; Bucknall **46** (iv, 202); *Heptameria* Massee in **14** (xviii, 60). On *Clematis*.

Sporormia ambigua Niessl. Recorded **28** (vii, 8). See Appendix I.

— **bipartis** Cain. Winifred M. Page **28** (xxiii, 253*, 1939). On dung.

— **Brassicae** Grove in **27** (xxiv, 132, 1886); Sacc. *Addit. I–IV*, 151. On *Brassica*, Staffs.

— **fimetaria** de Not. Massee & Salmon **33** (xv, 347*, 1901). On dung, Scotland.

Sporormia intermedia Auersw. Cooke & Plowr. **14** (VII, 86, 1879); Massee **14** (XVI, 120); Bucknall **46** (III, 69); **33** (XV, 348; XVI, 58); **32** (XXXII, 178, spore discharge); **34** (XVII, 290); Rhodes **108** (1933, 47); *Sphaeria Sporormia* Cooke in **15**, 866, 1871; Plowr. Exs. I, No. 73. On dung.

— **lagopina** Bres. Rea **28** (III, 378, 1912). On dung, Scotland. Determined by Boudier, who thought it wrongly placed as var. of *S. intermedia* in Sacc. XIV, 577.

— **leporina** Niessl. Massee & Crossland **7**, 231, 1905. On dung, Yorks.

— **lignicola** Phill. & Plowr. in **14** (VI, 29*, 1877); Sacc. II, 128; Massee **14** (XVI, 120). On old wood, Norfolk.

— **longipes** Massee & Salm. in **33** (XV, 346*, 1901); Sacc. XVII, 737. On dung, Kew.

— **Marchaliana** Mouton. Plowr. **28** (I, 63*, 1899). On dung, Norfolk.

— **megalospora** Auersw. Phill. & Plowr. **14** (VI, 29, 1877); Stevenson **13**, 395; **33** (XV, 348). On dung.

— **microspora** Plowr. in **14** (I, 63*, 1899); Sacc. XVI, 526. On dung, Norfolk.

— **minima** Auersw. Stevenson **13**, 396, 1879; Phill. & Plowr. **14** (VIII, 108, 1880); **33** (XV, 348; XVI, 74); Cooke Exs. II, No. 567. On dung.

— **Notarisii** Caresti. Stevenson **13**, 396, 1879; Massee **14** (XVI, 120); *Sphaeria* Cooke [n.comb.?] in **14** (IV, 113, 1876); Cooke Exs. II, No. 568. On dung.

— **octomera** Auersw. Phill. & Plowr. **14** (VI, 29*, 1877); Stevenson **13**, 396; Massee **14** (XVI, 120). On dung, Scotland.

— **ovina** (Desm.) Sacc. Massee & Salmon **33** (XV, 346*, 1901). On dung, Kew.

— **pascua** Niessl. Crossland **35** (1907, 103); **115**, 34. On dung, Yorks.

— **pulchella** Hansen. Massee & Salmon **33** (XV, 347*, 1901). On dung. See *Sporormiella* below.

— **pulchra** Hansen. Stevenson **13**, 396, 1879; Phill. & Plowr. **14** (VIII, 108*, 1880); **14** (XVI, 120). On dung.

Sporormiella nigropurpurea Ellis & Everh. Massee & Salmon **33** (XV, 348*, 1901, perhaps the same as *Sporormia pulchella*). On dung, Kew.

Thyridaria rubronotata (Berk. & Br.) Sacc. in *Syll.* II, 141; Chesters **28** (XXII, 116*); Berl. **98** (I, 45*); *Melogramma* B. & Br. in **19**, No. 894, 1859; Tul. **114** (II, 243, with suggestion that it is on the remains of *Nectria* or *Nitschkia*); Cooke **15**, 802; Massee **14** (XV, 39). On *Ulmus*. See *Leptosphaeria dioica*.

Trematosphaeria anglica (Sacc.) Sacc. in *Syll.* II, 115; *Melanomma* Sacc. in *Mich.* II, 152, 1880; *Amphisphaeria* Cooke in **14** (XVI, 90); Massee **14** (XVII, 5). Type on *Fraxinus*, Norfolk. Berlese **98** (I, 34*) considered this a variety of *Melanomma* (*Trematosphaeria*) *pertusa*.

— **callicarpa** Sacc. Bramley **35** (1936, 213) as *Melanomma*. On wood, Yorks.

— **lunaria** (Currey ex Cooke) Sacc. in *Syll.* IX, 814; "*Sphaeria lunariae*" Currey ex Cooke in **14** (XVI, 92, 1888); *Amphisphaeria* Cooke in **14** (XVI, 90); Massee **14** (XVII, 5). On *Fraxinus*.

— **megalospora** (de Not.) Sacc. Grove **27** (LXXI, 282*, 1933). On *Quercus*, Lancs.

— **melina** (Berk. & Br.) Sacc. in *Syll.* II, 118; *Sphaeria* B. & Br. in **19**, No. 888*, 1859; Cooke **15**, 890; *Amphisphaeria* Cooke in **14** (XVI, 90); Massee **14** (XVI, 5). On *Fraxinus*. Berlese **98** (I, 38) says the type specimen is *Clypeosphaeria Notarisii* f. *lignicola*.

— **paradoxa** Wint. Crossland **35** (1913, 27 and 175) as *Melanomma*. On *Quercus*, Yorks.

— **pertusa** (Pers. ex Fr.) Fuckel. **71** (XXI, 6, Ireland); Berk. **20**, 266, 1836 as *Sphaeria*; B. & Br. **19**, No. 878*, Currey **45** (XXII, 320*); Plowr. Exs. III, No. 50; *Conisphaeria* Stevenson in **13**, 397; Bucknall **46** (III, 69, 1880); *Amphisphaeria* Cooke in **14** (XVI, 90); Massee **14** (XVII, 5). On wood.

SPHAERIACEAE: DICTYOSPORAE

All are Phaeodictyae except the first two and *Pleosphaerulina* and *Rhamphoria*, which are Hyalodictyae.

Berlesiella nigerrima (Bloxam ex Currey) Sacc. gen.nov. in *Revue Myc.* x, 7, 1888; *Sphaeria* Bloxam ex Currey in **45** (xxii, 272, 1858); B. & Br. **19**, No. 869*, 1859; Cooke **15**, 871 p.p.; Vize Exs. 291; *Psilosphaeria* Stevenson in **13**, 388; *Pleospora*? Sacc. in *Syll.* ii, 276; *Homostegia* Sacc. in **14** (xiii, 62, 1885); **14** (xv, 37); Theiss. & Syd. **102** (1915, 607). On *Diatrype*.

Capronia sexdecemspora (Cooke) Sacc. gen.nov. in *Syll.* ii, 289; *Sphaeria* Cooke in **15**, 860, 1871; *Coniochaeta* Cooke in **14** (xvi, 38); **7**, 228; *Pyrenophora* Cooke in **14** (xviii, 64); Massee **14** (xix, 12). On branches, Shere. Now known only from Cooke's unpublished illustration.

[**Cucurbitaria acervata** (Fr.) Fr. Cooke **15**, 841; Berk. **19**, No. 98, 1858 as *Sphaeria*; Currey **45** (xxii, 283*). On *Pyrus*, Apethorpe. British specimens were *Nitschkia*, q.v.]

Cucurbitaria Aspegrenii Ces. & de Not. Massee **14** (xvi, 35, 1887); **14** (xvi, 47); **37** (1897, 142); **7**, 226. On *Prunus*.

— **Berberidis** (Pers. ex Fr.) S. F. Gray ex Greville in **39**, Index, 1828; Sacc. ii, 308; Gray, *Nat. Arr. Brit. Pls.* i, 519, 1821; Tul. **114** (ii, 219); Cooke **15**, 841; Massee **14** (xvi, 34); Plowr. Exs. i, No. 56; Vize Exs. 160; Cooke Exs. 582 and ii, No. 497; Greville **39**, t. 84, 1824 as *Sphaeria*; Berk. **20**, 254; Currey **45** (xxii, 282*). On *Berberis* and *Mahonia*. See Welch **100** (1926, 51) for *Cucurbitaria*.

— **bicolor** Fuckel. Massee **37** (1909, 374). On *Prunus*, Kew.

— **Dulcamarae** (Kunze & Schm. ex Fr.) Fr. Phill. & Plowr. **14** (ii, 188, 1874); **14** (xvi, 35); Plowr. Exs. ii, No. 46. On *Solanum Dulcamara*, Norfolk.

— **elongata** (Fr.) Greville in **39**, t. 195, 1827; Sacc. ii, 309; Tul. **114** (ii, 217); Massee **14** (xvi, 35); **7**, 226; **37** (1909, 374); Berk. **20**, 255 as *Sphaeria*. On *Robinia*, etc.

— **Euonymi** Cooke in **14** (iii, 67, 1874); Sacc. ii, 320; Massee **14** (xvi, 35); Cooke Exs. 683 (type). On *Euonymus*, Surrey.

— **homalea** (Fr.) Sacc. Berk. **18**, 391, 1860 as *Melogramma*; Cooke **15**, 802, description from a specimen from Fries; Massee **14** (xv, 39). On *Acer Pseudoplatanus*.

— **Laburni** (Pers. ex Fr.) de Not. Cooke **15**, 840; Massee **14** (xvi, 35); **65** (xxx, 349); Mary Green **28** (xvi, 289*); **112**, 178; Plowr. Exs. i, No. 53; Vize Exs. 162; Cooke Exs. ii, No. 498; Berk. **20**, 253, 1836 as *Sphaeria*; Currey **45** (xxii, 282*). On *Cytisus*.

— **Laurocerasi** Prill. & Plowr. in **14** (x, 72*, 1881); Sacc. ii, 314; Stevenson **40** (vii, 114); Massee **14** (xvi, 35). On *Prunus Laurocerasus*, Scotland.

— **naucosa** (Fr.) Fuckel. Cooke **15**, 842; Massee **14** (xvi, 35); B. & Br. **19**, No. 974*, 1861 as *Sphaeria*. On *Ulmus*.

— **Piceae** Borthwick in **57** (iv, 261*, 1909); Sacc. xxii, 289; **64** (xxxi, 73, 1917). On *Picea*, Scotland.

— **pithyophila** (Schm. & Kunze ex Fr.) de Not. A. Lorrain Smith **28** (iii, 42, 1908); **64** (xxix, 209). On conifers, Scotland. Mentioned by M. Ward **56** (xiv, 149, 1892) but not definitely known then in Britain. Petrak **102** (1921, 201) proposed the genus *Cucurbidothis* for this species.

— **Rhamni** (Nees ex Fr.) Fuckel. Phill. & Plowr. **14** (vi, 26, 1877); Massee **14** (xvi, 35); **7**, 226; Plowr. Exs. iii, No. 25. On *Rhamnus*.

— **Ribis** Niessl. Massee **14** (xvi, 35, 1887). On *Ribes*, Middlesex.

— **Spartii** (Nees in Fr.) Ces. & de Not. Cooke **15**, 840, 1871; Massee **14** (xvi, 35); Rhodes **108** (1933, 47); Cooke Exs. 388; Plowr. Exs. i, No. 55; Currey **45** (xxii, 283*, 1858 as *Sphaeria*, thought to be the same as *C. elongata*); **68** A (vii, 234); Grove **1** (ii, 104). On *Sarothamnus* and *Ulex*.

Fenestella bipapillata (Tul.) Sacc. Phill. & Plowr. **14** (xv, 78, 1887). On *Fagus*, Scotland.

Fenestella fenestrata (Berk. & Br.) Schroet. in *Krypt. Fl. Schles.* II, 435, 1908; *Valsa* B. & Br. in **19**, No. 853*, 1859; Cooke **15**, 837; Bucknall **46** (V, 51); *F. princeps* Tul. in **114** (II, 207, 1863); Massee **14** (XV, 120). On *Quercus*, etc.

— **Lycii** (Hazsl.) Sacc. Plowr. **54** (III, 751); Massee **14** (XV, 120, 1887). On *Lycium*, Norfolk.

— **minor** Tul. in **114** (II, 207). Saccardo II, 327 considered that *Valsa tetratrupha* Berk. & Br. (in **19**, No. 852*, 1859; Cooke **15**, 837) belonged here: this name cannot be transferred to *Fenestella* because Saccardo (*Syll.* II, 326) called another fungus *F. tetratrupha* Sacc. Massee **14** (XV, 120, 1887) and **7**, 224, however, used the name "*F. tetratrupha* B. & Br." On *Alnus* and *Salix*. See *Pleospora eustegia*.

— **Salicis** (Rehm) Sacc. Massee **14** (XV, 120, 1887). On *Salix*, Kew.

— **vestita** (Fr.) Sacc. Massee **14** (XV, 120); **7**, 224; Currey **66** (CXLVII, 546*, 1857) as *Sphaeria*; **45** (XXII, 280*, 1858); B. & Br. **19**, No. 866, 1859 as *Valsa*; Cooke **15**, 839. On *Fagus* and *Ulmus*.

Karstenula rhodostoma (Alb. & Schw. ex Fr.) Speg. Currey **45** (XXII, 323*, 1859) as *Sphaeria*; Phill. & Plowr. **14** (VI, 26) as *Massaria*; Massee **14** (XVIII, 10); Plowr. Exs. III, No. 27. On *Rhamnus*, Norfolk.

Pleomassaria holoschista (Berk. & Br.) Sacc. in *Syll.* II, 239; Berl. **98** (II, 2*); *Sphaeria* B. & Br. in **19**, No. 977*, 1861; Rabenh. *Fungi Eur.* No. 446, 1862, coll. Broome; Tul. **114** (II, 233, 1863) under *Massaria* (but not formally transferred); Cooke **15**, 847 as "*M. holoschista* Tul."; Massee **14** (XVIII, 10). On *Alnus*, Wilts.

— **siparia** (Berk. & Br.) Sacc. in *Syll.* II, 239; *Sphaeria* B. & Br. in **19**, No. 625*, 1852; Currey **66** (CXLVII, 552*, 1858) and **45** (XXII, 326*, 1859); Rabenh. *Fungi Eur.* III, No. 260, coll. Broome; *Massaria* Ces. & de Not. in *Schema*, p. 43; Tul. **114** (II, 232); Cooke **15**, 844; Bucknall **46** (III, 69); Massee **14** (XVIII, 10); Plowr. Exs. II, No. 47. On *Betula*.

Pleosphaerulina hyalospora (Ellis & Everh.) Berl. Carter **28** (XIX, 146, 1935). From air over orchards.

Pleospora abscondita Sacc. & Roum. var. **divisior** Grove in **27** (LXVIII, 102*, 1930). On *Juncus*, Wales.—For *Pleospora* see Berlese, "Monografia dei generi *Pleospora*, *Clathrospora* e *Pyrenophora*", *Nuovo Giorn. Bot. Ital.* XX, 1888, cited below as "Berl. Monog." See also **98** (II, 4–29).

— **Allii** (Rabenh.) Ces. & de Not. Massee **14** (XIX, 12, 1890). On *Allium*, Twycross. Teste Berl. Monog. = *P. herbarum*.

— **Armeriae** (Rabenh.) Ces. & de Not. Berl. Monog. p. 125; Grove **27** (1930, 270); **70** (XXI, 398) as form of *P. herbarum*. On *Armeria*.

— **Asparagi** Rabenh. Massee **14** (XIX, 12, 1890); Plowr. Exs. III, No. 76 as *Sphaeria*; Cooke Exs. II, No. 494; Vize Exs. 186 as *S. herbarum* var. On *Asparagus*. Teste Berl. Monog. = *P. herbarum*.

— **Bardanae** Niessl. Massee **14** (XVIII, 89, 1890) and **37** (1897, 143); Berl. Monog. p. 29. On *Buddleia*, Kew Gardens.

— **Clematidis** Fuckel. Grove **27** (LXVIII, 100*, 1930); Rhodes **108** (1933, 48). On *Clematis*, Worcs. Teste Berl. Monog. = *P. Vitalbae* (de Not.) Berl.

— **culmorum** (Cooke) Sacc. in *Syll.* II, 263; Berl. Monog. p. 39*; Massee **14** (XVIII, 89); *Sphaeria* Cooke in **14** (III, 68, 1874; VII, 87); Cooke Exs. 694 and II, No. 260. On grass.

— **denotata** (Cooke & Ellis) Sacc. in *Syll.* II, 251; Massee **14** (XVIII, 89, 1890). On *Glaucium*, Kew.

— **Dianthi** de Not. Massee **14** (XVIII, 89, 1890); *Sphaeria* [comb.n.?] in Plowr. Exs. III, No. 74. On Dianthus. Teste Berl. Monog. = *P. herbarum*.

— **donacina** (Fr.?) Niessl. Berl. Monog. p. 50; Phill. & Plowr. **14** (VI, 27, 1877) as *Sphaeria*. On *Arundo Donax* (cult.), Leominster.

— **Equiseti** A. L. Smith in **28** (III, 116*, 1909); Sacc. XXII, 276. On *Equisetum*, Scotland.

— **Euonymi** Fuckel. Crossland **35** (1915, 145). On *Euonymus*, Yorks.

— **Euonymi** f. **caulicola** Grove in **27** (LXXI, 285, 1933). On twigs of *Euonymus*, Worcs.

Pleospora eustegia (Cooke) Sacc. in *Syll.* II, 255; *Sphaeria* Cooke in **15**, 893, 1871; Cooke Exs. 387; *Delacourea* Cooke in **14** (XVII, 92); Massee **14** (XVIII, 12); *Valsa tetratrupha* var. *simplex* Cooke in **27** (IV, 101*, 1866); see *Fenestella minor* above. On *Salix*. Berlese **98** (II, 28) found the type specimen sterile.

— **Gymnocladi** Bagnis. Massee **37** (1909, 375). On *Gymnocladus*, Kew. Teste Berl. Monog. = *P. herbarum*.

— **hepaticola** Watson in **28** (IV, 295, 1914); Sacc. XXIV, 1025. On *Lophocolea*, Devon.

— **herbarum** (Pers. ex Fr.) Rabenh. Tul. **114** (II, 260, 1863); Massee **14** (XVIII, 89); **28** (X, 101; XIV, 224; XVI, 102; XIX, 147 and 284); **22** (Bull. 79, p. 57); **23** (XLIII, 124); **31** (LXXXIX, 35); **33** (XLVIII, 363); **65** (XXX, 259); **78** (1930, 133); **79** (I, 19 and 28; II, 18; XI, 36 and 48); **85** (XXXIII, 19); Hooker **92**, 7, 1821 as *Sphaeria*; Berk. **20**, 276; Currey **45** (XXII, 332*); **68**A (III, 266*); Cooke **15**, 896; Plowr. Exs. I, No. 86 and III, Nos. 77–80; Berk. Exs. 267; Cooke Exs. 261 and II, Nos. 257–9, 494, and 693–6. Several other names in *Pleospora* belong here; see Berl. Monog. p. 91. On apples, lettuce, and many other hosts.

— **herbarum** var. **Cichorii** Cooke & Massee in **14** (XVII, 79, 1889).

— **herbarum** var. **glumarum** Berk. & Br. (as *Sphaeria*) in **19**, No. 641, 1852.

— **herbarum** var. **Iridis** Cooke in **14** (XIII, 99, 1885), Kew.

— **hydrophila** Karst. Berl. Monog. p. 53; A. Lorrain Smith **28** (VI, 151, 1919). On *Alisma*, Scotland.

— **infectoria** Fuckel. Massee **14** (XVIII, 90); **79** (I, 18 and 28, on oats); **70** (XXI, 398, in Ireland); Hawley **28** (IX, 239); Cooke **15**, 897, 1871 as *Sphaeria* [comb.n.?]; Cooke Exs. II, No. 699; Plowr. Exs. II, No. 75 and III, No. 72; Vize Exs. 188. On grasses. See Berl. Monog. p. 56.

— **Junci** Pass. & Beltr. Berl. Monog. p. 115; Grove **27** (LXVIII, 101*, 1930). On *Juncus*, Wales.

— **juncigena** Cooke in **14** (XIX, 8, 1890 as "*junciginea*"); Sacc. IX, 879; nom. nud. in **14** (XVIII, 90). On *Juncus*, N. Wootton. Berlese **98** (II, 12*) made this a variety of *P. infectoria*.

— **laminariana** Sutherland in **28** (V, 260*, 1916); Sacc. XXIV, 1024. On *Laminaria*, Dorset and Orkney.

— **leguminum** (Wallr.) Rabenh. Massee **14** (XVIII, 89); **7**, 236; Cooke **15**, 897, 1871 as var. On Leguminosae. Teste Berl. Monog. = *P. herbarum*.

— **Meliloti** Rabenh. in Sacc. Berl. Monog. p. 87; Massee **14** (XVIII, 89, 1890); **7**, 236. On *Melilotus*.

— **Meliloti** var. **Medicaginis** Cooke & Massee in **14** (XVII, 79, 1889). On *Medicago*, Kew. Oudemans *Enumerat.* III, 852 cites this as a synonym of *Leptosphaeria Medicaginis*.

— **palustris** Berl. in *Nuovo Giorn. Bot. Ital.* XX, 67*, 1888; "*Sphaeria Heleocharis*" in **14** (VI, 27, 1877); **14** (VII, 27; XIX, 12); Plowr. Exs. III, No. 81; Cooke Exs. II, No. 689. On *Eleocharis*, Norfolk.

— **Pelvetiae** Sutherland in **32** (XIV, 41*, 1915); Sacc. XXIV, 1024. On *Pelvetia*.

— **pentamera** Karst. Berl. Monog. p. 77; Massee & Crossl. **7**, 236, 1905. On grass, Yorks.

— **Pisi** (Sowerby ex Fr.) Fuckel in *Symb. Myc.* p. 131; Sacc. II, 248; Massee **14** (XVIII, 89); *Sphaeria* Sowerby in **42**, t. 393, 1803; Berk. **20**, 275; Currey **45** (XXII, 331*); Plowr. Exs. III, No. 75; Cooke **15**, 897 as var. of *P. herbarum*; Vize Exs. 185. On Leguminosae. Teste Tul. **114** (II, 262) and Berl. Monog. = *P. herbarum*.

— **platyspora** Sacc. Massee **14** (XVIII, 89, 1890). On *Euphorbia*, Darenth. *Clathrospora* Berl. in Monog., p. 197.

— **pomorum** Horne in **27** (LVIII, 239, 1920); **31** (Oct. 30, 1920, p. 216); **34** (VII, 183, 1920); **93**, 130; **28** (X, 100; XIV, 160); **22** (Misc. Publ. 38, p. 69); **112**, 192; **67** (B CII, 427 and 444), and probably other reports in the literature of plant pathology. On apples. *P. pomorum* may be a synonym of *P. herbarum*.

Pleospora rubicunda Niessl. Bucknall **46** (v, 53, 1886); Massee **14** (xviii, 89); Grove **27** (lxviii, 97, perhaps the same as *Leptosphaeria purpurea* Rehm); Phill. & Plowr. **14** (vi, 27, 1877) as *Sphaeria* [comb.n.?]; **14** (vii, 87); Plowr. Exs. iii, Nos. 70, 71. On *Juncus*, *Phragmites*, and *Chenopodium*. See Berl. Monog. p. 140.

— **Salsolae** Fuckel. Berl. Monog. p. 121; Massee **14** (xviii, 89, 1890). On *Salicornia*, Bungay.

— **samarae** Fuckel. *Delacourea* Cooke in **14** (xvii, 93, 1889); Massee **14** (xviii, 12); Plowr. Exs. iii, No. 73 as *Sphaeria*; Vize Exs. 292; Cooke Exs. ii, No. 691. On samaras of *Fraxinus*. Teste Berl. Monog. = *P. herbarum*.

— **scirpicola** (DC. ex Fr.) Karst. Massee **14** (xviii, 90); Berl. Monog. p. 68; Berk. **20**, 275, 1836 as *Sphaeria*; B. & Br. **19**, No. 641, 1852; Cooke **15**, 883; Vize Exs. 99; Cooke Exs. ii, No. 496; Plowr. Exs. ii, No. 65, and ? No. 66 as var. *graminis*. On *Scirpus*. See *P. typhicola*.

— **Scrophulariae** (Desm.) von Höhnel. Berk. **20**, 276, 1836 as *Sphaeria*; Currey **68**A (iv, 198 and 201*, 1856) as *S. herbarum* var. *Scrophulariae*; Cooke **15**, 897; Plowr. Exs. i, No. 87; Cooke Exs. ii, No. 376. On *Scrophularia*. Von Höhnel (*Frag. Myc.* No. 1044, 1917) and Petrak **105** (1925, 238) consider this an earlier name for *P. vulgaris*.

— **Sparganii** Cooke in **14** (xix, 8, 1890 as "*Spargani*"); Sacc. ix, 875; nom. nud. in **14** (xviii, 90). On *Sparganium*, N. Wootton. Berlese **98** (ii, 10*) made it a variety of *P. vagans*.

— **subriparia** (Cooke) Sacc. in *Syll.* ii, 272; Berl. Monog. p. 91; Massee **14** (xix, 12); *Sphaeria* Cooke in **14** (v, 121, 1877). On *Carex*, Norfolk.

— **Thujae** Grove in **27** (l, 49, 1912); Sacc. xxiv, 1028. On cone-scales of *Thuja*, Studley Castle.

— **typhicola** (Cooke) Sacc. in *Syll.* ii, 264; Berl. Monog. p. 40*; Massee **14** (xviii, 90); *Sphaeria* Cooke in **14** (v, 121, 1877); Bucknall **46** (iii, 220); "*Macrospora Scirpi*" in **14** (ii, 48, 1873); "*Sphaeria Scirpi*" in **14** (ii, 164); ?**32** (xxxii, 178) as "*Pleospora Scirpi*"; Plowr. Exs. ii, No. 74 and ?iii, No. 69. On *Typha*.

— **vagans** Niessl. Bucknall **46** (v, 48* and 54, 1886); Grove **27** (lxviii, 101). On *Dactylis* and *Phragmites*. See Berl. Monog. p. 49.

— **verecunda** (Currey) Sacc. in *Syll.* ii, 245; Berl. Monog. p. 158; Massee **14** (xviii, 89); *Sphaeria* Currey in **45** (xxiv, 158*, 1863); B. & Br. **19**, No. 1099, 1865; Cooke **15**, 882; Bucknall **46** (ii, 349). On sticks.

— **vulgaris** Niessl. Massee **14** (xviii, 89); **7**, 235; Rhodes **108** (1933, 48); Phill. & Plowr. **14** (vi, 27, 1877) as *Sphaeria vulgaris* "*forma monosticha*". On herbs. Berl. Monog. p. 46, considered this a synonym of *P. infectoria*. See *P. Scrophulariae* above.

Pyrenophora Avenae Ito. Dennis **28** (xix, 288*, 1935). Asci recorded on *Avena sativa* in Scotland.

— **calvescens** (Fr.) Sacc. Massee **14** (xix, 12); Bucknall **46** (v, 54, 1886); *Pleospora* Tul. in **114** (ii, 266); Berl. Monog. p. 25. On *Atriplex*.

[— **graminea** Ito & Kuribay. This fungus has been reported, e.g. **24** (ii, 535, 1919); **34** (xvi, 1929), but no perithecia are known in Britain. See Ainsworth **93**.]

— **phaeocomes** (Rebent. ex Fr.) Fr. Cooke **15**, 925, 1871; Massee **14** (xix, 12); Cooke Exs. 600; Berk. **20**, 276, 1836 as *Sphaeria*; *S. capillata* Greville in **39**, t. 69, 1824. On grasses. See Berl. Monog. p. 214, next entry, and **7**, 236.

— **phaeocomoides** Sacc. in *Syll.* ii, 280; Berl. Monog. p. 220; Massee **14** (xix, 12); Bucknall **46** (v, 54); "*Sphaeria phaeocomes*" in **19**, No. 207*, 1841; "*Pyrenophora phaeocomes*" in **18**, 402, 1860. On *Vitis*.

— **teres** Drechsler. Reports of this fungus in Britain, e.g. **24** (v, 414); **34** (xvi, 1929); **65** (xxx, 344), apparently refer only to the *Helminthosporium*. On *Hordeum*.

— **trichostoma** (Fr.) Fuckel. Cooke **14** (v, 122, 1877); Massee **14** (xix, 12); Plowr. Exs. iii, Nos. 86, 87; Cooke Exs. ii, No. 692. On straw, Norfolk. See Berl. Monog. p. 209.

Rhamphoria tympanidispora Rehm. Chesters & Croxall **113** (1937, 153*). On logs of *Quercus*, near Coventry.

Teichospora deflectens Karst. Phill. & Plowr. **14** (x, 73, 1881) as *Sphaeria* [comb.n.?]; Bucknall **46** (III, 269*, 1882). On *Fagus*.

— **obducens** (Fr.) Fuckel. Berk. **19**, No. 100, 1838 as *Sphaeria*; Cooke **15**, 865; Berk. Exs. 177; Plowr. Exs. I, No. 71; *Psilosphaeria* Stevenson in **13**, 387; Bucknall **46** (V, 52); *Strickeria* Cooke in **14** (XVI, 54); Massee **14** (XVI, 119); *S. plateata* Currey in **45** (XXII, 318*, 319). On wood, usually *Fraxinus*. See Berlese **98** (I, 28). Berk. (*Mag. Zool. Bot.* 1838, 223*) apparently figured this species as "*Sphaeria populina* Pers."

Thyridium lividum (Pers. ex Fr.) Sacc. Massee **14** (XVIII, 9); Boyd **28** (IV, 68); Berk. **20**, 267, 1836 as *Sphaeria*; Currey **45** (XXII, 323*); Cooke **15**, 877; *Xylosphaeria* Stevenson in **13**, 398. On *Hedera*. One doubtful record.

SPHAERIACEAE: SCOLECOSPORAE (all Hyaloscoleciae)

Acanthophiobolus helminthosporus (Rehm) Berl. Grove **27** (LXVIII, 131, 1930). On *Quercus*, Worcs. Berlese **98** (II, 137) finally followed Saccardo and placed this in *Ophiochaeta*.

[**Bovilla**, see Sphaeriaceae-Phaeosporae.]

Cryptospora Betulae Tul. in **114** (II, 149, 1863); Rhodes **108** (1933, 49); *Valsa* Cooke in **14** (XIV, 7, 1885); Bucknall **46** (IV, 202, 1885); Massee **14** (XV, 117); Plowr. Exs. II, No. 35. On *Betula*.

— **corylina** (Tul.) Fuckel. Cooke **15**, 830, 1871 as *Valsa*; Massee **14** (XV, 117). On *Corylus*, Shere.

— **intexta** (Currey) Sacc. in *Syll.* II, 362; *Sphaeria* Currey in **45** (XXII, 279*, 1858); *Valsa* B. & Br. in **19**, No. 860, 1859; Cooke **15**, 830; Massee **14** (XV, 117). On *Quercus*, Surrey. Berlese **98** (II, 161) remarked "dubia".

— **Sowerbyi** (Berk. apud Cooke) Sacc. in *Syll.* IX, 939; *Diatrype* Berk. apud Cooke in **14** (XV, 67, 1887), with Sowerby t. 378 f. 14 cited. On branches, Scotland, Herb. Sowerby. Berlese **98** (II, 161) found spores 20×4–$5\ \mu$ and suggested *Calospora* or *Valsa*.

— **suffusa** (Fr.) Tul. in **114** (II, 145, 1863); Rhodes **108** (1933, 49); Berk. **18**, 390 as *Valsa*; Cooke **15**, 829; **14** (XV, 117); **27** (XLVII, 349); Cooke Exs. 247 and II, No. 223; Plowr. Exs. II, No. 34; Vize Exs. 169; Currey **45** (XXII, 279*) as *Sphaeria*; B. & Br. **19**, No. 983, 1861; *S. Rabenhorstii* B. & Br. in **19**, No. 631, 1852; *S. Cryptosporii* Currey in **68**A (III, 271*, 1855; IV, 199*); Sacc. II, 361. On *Alnus*.

Dilophia graminis (Fuckel) Sacc. Anon., **23** (XXII, 937, 1916). On wheat, England. Conidial?

Isothea saligna (Fr.) Berk. in **18**, 392, 1860; Cooke **15**, 932; Cooke Exs. II, No. 668; Berk. **20**, 233, 1836 as *Phoma*; Berk. Exs. 191; *Sphaeria salicina* Sowerby in **42**, t. 372, 1802; Sacc. II, 354 as *Linospora Capreae* (DC.) Fuckel; Wheldon **40** (1911, 37); Grove **1** (I, 103). On fallen leaves of *Salix*.

Linospora populina ([Pers.]) Schroet. Cooke **15**, 930, 1871 as *Hypospila*; Berk. **20**, 258, 1836 as *Sphaeria ceuthocarpa* Fr.; Currey **45** (XXII, 286*, 1858). On dry leaves of *Populus*. Fries used the name "*ceuthocarpa*" in the *Systema*.

— **Viburni** (Bucknall apud Cooke) Berl. & Vogl. in Sacc. *Addit. I–IV*, 191; *Hypospila* Bucknall apud Cooke in **14** (XII, 44, 1883); Bucknall **46** (IV, 150, 1884; V, 50*); Cooke **14** (XII, 44); Massee **14** (XV, 37). On leaves of *Viburnum*, Bristol.

Naumovia abundans Dobrozr. Ramsbottom **28** (XIX, 91, 1934); **71** (XLII, 50, 1934). On *Prunella*, England, Ireland and Scotland. First listed **28** (XVII, 12, 1932); see Appendix I. Shear **100** (XXIX, 361) transferred it to *Gibberidea*.

Ophiobolus acuminatus (Sowerby ex Fr.) Duby in Rabenh. *Herb. Myc.* Ed. II, No. 57; Sacc. II, 340; *Sphaeria* Sowerby in **42**, t. 394, 1803; Berk. **19**, No. 189*, 1841; B. & Br. **19**, No. 639; Currey **45** (XXII, 331*); Cooke **15**, 899; Cooke

Exs. 264 and II, No. 253; Vize Exs. 294; Plowr. Exs. I, No. 88; *Rhaphidospora* Cooke in **14** (XVIII, 16); Massee **14** (XVIII, 42); *Leptosphaeriopsis* Berl. in **98** (II, 140). Common on stems of herbs.

Ophiobolus Bardanae (Fuckel) Rehm. Rilstone **27** (1935, 102) on *Arctium*; **28** (XXI, 3) on *Heracleum*.

— **cariceti** (Berk. & Br.) Sacc. in *Syll.* II, 349; *Sphaeria* B. & Br. in **19**, No. 983, 1861; Cooke **15**, 901; Bucknall **46** (III, 270); *Rhaphidospora* Cooke in **14** (XVIII, 16); Massee **14** (XVIII, 42). On sedges etc. See *O. graminis*. Berlese **98** (II, 119) thought *O. cariceti* a synonym of *O. eucryptus*.

— **erythrosporus** (Riess) Wint. Cooke **15**, 899, 1871 as *Sphaeria Urticae* Rabenh.; Bucknall **46** (V, 54); Massee **14** (XVIII, 42) as *Rhaphidospora Urticae*. On *Urtica*.

— **eucryptus** (Berk. & Br.) Sacc. in *Syll.* II, 350; Berlese **98** (II, 119); *Sphaeria* B. & Br. in **19**, No. 652*, 1852; Cooke **15**, 901; *Rhaphidospora* Cooke in **14** (XVIII, 16); Massee **14** (XVIII, 42). On *Carex* (and *Iris*?).

— **fruticum** (Rob. & Desm.) Sacc. Grove **27** (LXVIII, 102, 1930). On *Ononis*, Worcs.

— **graminis** Sacc. Carruthers **63** ((2) VIII, 213*, 1872) and W. G. Smith **81**, 69*, 1884 described the mycelium now known to belong to *O. graminis*; the name was apparently first used for a British record **23** (XI, 154, 1904); **23** (XIV, 355; XIX, 1020; XLIII, 159); Massee **5**, 226 and **37** (1912, 435*, on *Triticum*, *Avena*, *Agropyron repens*, *Bromus*); Jones **33** (XL, 607*, on *Avena* in Wales, development of perithecia); **22** (Misc. Publs. 52, 70, 79); **63** (1927, 313); **65** (XXX, 344, Scotland); **79** (I, 9 and 28; IV, 4; V, 24; XI, 43); **85** (XLI, 15); **93**, 12; **112**, 92; **34** (XXII, 225; XXIII, 45 and 667), and other recent papers; for a time following **100** (1922, 36) the name *O. cariceti* was used; **79** (III, 3); **85** (XXIV, 149; XXV, 142; XXVI, 165; XXVII, 87; XXVIII, 49; XXXI, 13); **103** (XIX, 472). On cereals and grasses.

— **halimus** Diehl & Mounce. Tutin (ref. in *Rev. Appl. Myc.* XVI, 481). On *Zostera*, Britain.

— **helicosporus** (Berk. & Br.) Sacc. in *Syll.* II, 350; *Sphaeria* B. & Br. in **19**, No. 653, 1852; Cooke **15**, 901; *Rhaphidospora* Cooke in **14** (XVIII, 17); Massee **14** (XVIII, 42). On *Carex*. See Berlese, **98**.

— **herpotrichus** (Fr.) Sacc. Mary Glynne **28** (XX, 122, 1936, on *Triticum*); Berk. **19**, No. 26, 1837 as *Sphaeria*; Cooke **15**, 900; Bucknall **46** (VI, 144); Plowr. Exs. II, No. 78; Massee **14** (XVIII, 42) as *Rhaphidospora*. On grasses.

— **immersus** Trail. Trail **40** (X, 70, 1889); Sacc. IX, 923. On *Urtica*, Scotland. First described by Trail from Norway.

— **intermedius** (Berl.) Grove in **27** (LXVIII, 102, 1930). On *Galium*, Cornwall. Berlese had described this as a variety of *O. vulgaris*.

— **Laminariae** Sutherland in **28** (V, 147*, 1915); Sacc. XXIV, 1062. On *Laminaria*, Scotland.

— **nigrificans** Sacc. in *Syll.* II, 343, a correction of the specific name and a transfer of "*Sphaeria nigrofactae*" Cooke in **14** (II, 164, 1874); "*Xylosphaeria nigrofacta*" Cooke in **14** (VII, 86); *Rhaphidospora nigrificans* Cooke in **14** (XVIII, 16); Massee **14** (XVIII, 42). On *Brassica*, Eastbourne.

— **rubellus** (Pers. ex Fr.) Sacc. Berk. **20**, 274, 1836 as *Sphaeria*; Currey **45** (XXII, 331*); Cooke **15**, 899; Cooke Exs. 252, 274 and II, No. 688; Vize Exs. 295; Plowr. Exs. II, No. 77; **14** (XVIII, 42) as *Rhaphidospora*; **37** (1897, 142); **7**, 234; Grove **27** (XXIII, 161, 1885) as *Metasphaeria*; **27** (LXVIII, 97). Common on stems. Sacc. in *Syll.* II used Tode's name "*porphyrogona*", but this is invalid since Fries accepted "*rubella*".

— **tenellus** (Auersw.) Sacc. Hawley **28** (IX, 239, 1924). On *Galium*.

— **ulnasporus** (Cooke) Sacc. in *Syll.* II, 339; **98** (II, 131*); *Sphaeria* Cooke in **15**, 900*, 1871; **73** (III, 79); Bucknall **46** (III, 69); Cooke **14** (XVIII, 16) as *Rhaphidospora*; Massee **14** (XVIII, 42). On *Urtica*.

— **vulgaris** (Sacc.) Sacc. Phill. & Plowr. **14** (XIII, 78, 1885); Bucknall **46** (V, 54, 1886). On stalks of *Solanum tuberosum*.

Ophioceras bacillatum (Cooke) Sacc. in *Syll.* II, 360; *Sphaeria* Cooke in **15**, 879, 1871; *Ceratostomella* Cooke in **14** (XVII, 50); Massee **14** (XVII, 74); *Acerbia* Berl. in **98** (II, 142*). On wood, Shere.

Sillia ferruginea (Pers. ex Fr.) Karst. Chesters **113** (1936, 128*); Hooker **92**, 6, 1821 as *Sphaeria*; Berk. **20**, 244; Currey **45** (XXII, 272*); Cooke **15**, 815 as *Diatrype*; Massee **14** (XV, 69); Plowr. Exs. I, No. 38; *Hillia* Cooke in **14** (XIV, 14); **7**, 221 as *Melogramma*. On *Corylus*.

HYPOCREALES

NECTRIACEAE

With the few exceptions indicated, we follow the classification of Petch's recent paper, designed especially to help the collector.

Actinopsis peristomialis (Berk. & Br.) Petch in **28** (XXI, 282*, 1938); *Peziza* B. & Br. in **19**, No. 1169, 1866; Cooke **15**, 706; Nannfeldt **28** (XX, 201) as *Peristomialis Berkeleyi* Boud. On *Hedera*, Penzance.

Apiocrea chrysosperma (Tul.) Syd. Petch **27** (LXXV, 221) and **28** (XXI, 275*); B. & Br. **19**, No. 1832, 1879 as *Hypomyces*; Phill. & Plowr. **14** (VIII, 104, 1880); **14** (XI, 4*; XV, 5); **40** (V, 234, 1880). On *Boletus* and other fungi.

— **Tulasneana** (Plowr.) Petch in **27** (LXXV, 220, 1937); **28** (XXI, 275); *Hypomyces* Plowr. in **14** (XI, 46*, 1882); Sacc. II, 473; *Peckiella* Sacc. in *Syll.* IX, 944; B. & Br. **19**, No. 594, 1851 as *Hypocrea luteovirens*; Currey **45** (XXII, t. 46); B. & Br. **19**, No. 1101, 1865 and No. 1175 as *Hypomyces luteovirens*. On *Boletus*. See Petch, **27**, on confusion of the specific epithet *luteovirens*.

Barya aurantiaca Plowr. & Wilson in **31** (9 Feb. 1884, 176*); Petch **28** (XXI, 284*); **40** (VII, 230); *Claviceps Wilsoni* Cooke in **14** (XII, 77, Mar. 1884, and p. 100); **89**, 238*, 1906; *C. purpurea* var. *Wilsoni* W. G. Smith in **81**, 233*, 1884. On *C. purpurea* on *Glyceria* near Aberdeen.

Battarrina inclusa (Berk. & Br.) Clem. & Shear gen.nov. in **29**, 279, 1931; **28** (XXI, 247*, 1938); *Hypocrea* B. & Br. in **19**, No. 970*, 1867; Cooke **15**, 776; 14 (XV, 3). In *Tuber puberulum*, Bristol. The name *Batterina* was used as a subgenus in *Syll.* II, 533.

Byssonectria lateritia (Fr.) Petch in **27** (LXXV, 220, 1937); **28** (XXI, 248*); Berk. **20**, 238, 1836 as *Sphaeria*; **21** (1842, 44); Currey **45** (XXII, 267*); Cooke **15**, 779 as *Hypomyces*; Plowr. **14** (XI, 41*, 42*); *Merulius helvelloides* Sowerby in **42**, t. 402, 1809; Cooke Exs. II, No. 667 as *Hypomyces torminosus*; Vize Exs. 587; Plowr. Exs. II, No. 4; B. & Br. **19**, No. 593 as *Hypocrea floccosa*? On *Lactarius*.

— **viridis** ([Alb. & Schw.]) Petch in **27** (LXXV, 220, 1937); **28** (XXI, 248); Phill. & Plowr. **14** (VIII, 104*, 1880) as *Hypomyces*; **14** (X, 42; XV, 5); *H. ater* Fr. ex Cooke in **14** (XII, 80, 1884); **14** (XIII, 47; XV, 5); *H. luteovirens* (Fr.) Plowr. in **14** (XI, 46*). On *Lactarius*, etc.

Calonectria erubescens (Rob. in Desm.) Sacc. Petch **28** (XXI, 278); Bucknall **46** (III, 138*, 1881) as *Nectria* [comb.n.?]; Phill. & Plowr. **14** (X, 70, 1881); Vize Exs. 589. On leaves of *Ilex*.

— **graminicola** (Berk. & Br.?) Wollenw. F. A. Mason, *Bull. Bureau Biotech.* 1923, 78; **112**, 163; **86** (1931, 116); Bennett **34** (XX, 277) and **86** (1933, 79). This name is used by the Plant Path. Comm. of the Brit. Myc. Soc. for *Fusarium nivale*, the pathogen of turf grasses. Bennett (loc. cit.) obtained immature perithecia but as he points out it is very doubtful whether this is Berkeley & Broome's species *Nectria* [*Dialonectria*, q.v.] *graminicola*.

[— **Leightoni** (Berk.) Sacc. Petch **27** (LXXIV, 186) says that the British specimen is a lichen.]

— **minutissima** Grove in **27** (LXVIII, 31*, 1930); Petch **28** (XXI, 279). On *Eleocharis*, Staffs.

Calonectria ochraceopallida (Berk. & Br.) Sacc. in *Fungi Ven.*, Ser. IV; *Syll.* II, 551; Petch **28** (XXI, 278); *Sphaeria* B. & Br. in **19**, No. 607, 1851; *Nectria* Berk. in **18**, 394; Tul **114** (III, 95); Cooke **15**, 786; *Dialonectria* Cooke in **14** (XII, 111); *Calonectria Plowrightiana* Sacc. in *Mich.* I, 307; *Nectria Plowrightiana* Cooke & Plowr. in **14** (VII, 78); *Dialonectria Plowrightiana* Cooke in **14** (XII, 111). On stems and branches. See Weese, *Mycol. Centralb.* IV, 180.

— **platasca** (Berk.) Sacc. in *Mich.* I, 308; *Syll.* II, 546; Petch **28** (XXI, 279); *Sphaeria* Berk. in **20**, 263, 1836; *Nectria* Berk. in **18**, 393; **15**, 785; *Dialonectria* Cooke in **14** (XII, 111). On *Acer*, Northants. Petch **27** (LXXIV, 186) found no perithecia on the type specimen.

— **Pseudopeziza** (Desm.) Sacc. Mrs N. L. Alcock & Foister **65** (XXX, 349, 1931). On *Laburnum*, Scotland.

— **tessellata** Petch in **28** (XXI, 301 and 279*, 1938). On *Brassica* and twigs of *Pyrus*.

— **xantholeuca** (Fr.) Sacc. Listed by Corner **28** (XIX, 284, 1935), Wicken Fen, Cambs.

Cesatiella lancastriensis Grove in **27** (LXVIII, 132*, 1930); Petch **28** (XXI, 283*). On wet wood, Lancs.

Dialonectria arenula (Berk. & Br.) Cooke in **14** (XII, 110); Petch **28** (XXI, 265); *Sphaeria* B. & Br. in **19**, No. 622*, 1852; *Nectria* Berk. in **18**, 394; Sacc. II, 492; see Tul. **114** (III, 96). On *Aira*.

— **Brassicae** (Ellis & Sacc.) Cooke in **14** (XII, 110); Petch **28** (XXI, 264, 1938). On *Brassica*, Norfolk, 1935.

— **Desmazierii** (de Not.) Petch in **35** (1937, 281); **28** (XXI, 265); Wollenw. *Fus. autog. del.* t. 1104c as *Nectria*; *Sphaeria sanguinea* var. *cicatricum* Berk. in **19**, No. 25*, 1837; Berk. Exs. 83. On twigs of *Buxus*.

[— **galligena** (Bres.) Petch in F. A. Mason & Grainger **115**, 32, 1937; **35** (1937, 381); **28** (XXI, 265*). The references below are as *Nectria*. Dorothy Cayley **33** (XXXV, 79*, 1921, life history, previously confused with *N. ditissima*); **23** (XXXIV, 162; XL, 53); **25** (XXV, 272; XXXIV, 97); **34** (VII, 152, 1921; IX, 275; XII, 398); **65** (XXX, 338); **77** (1924, 135; 1926–7, 92; 1928–30, 125; 1931, 47; 1933, 166); **79** (I, 29; V, 26 and 30; VI, 27; XI, 37, 50 and 52; XII, 24); **85** (XXVI, 165; XXXI, 14; XXXIII, 20; XXXIX, 18); **96** (III, 130); **104** (II, 102, 1921; II, 271; III, 161; IX, 295); **112**, 160*; Bennett, *Outline of Fungi and Plant Diseases*, p. 147*. On *Pyrus*, *Fraxinus*, etc.]

— **graminicola** (Berk. & Br.) Cooke in **14** (XII, 110); Petch **28** (XXI, 265); *Nectria* B. & Br. in **19**, No. 897*, 1859; Tul. **114** (III, 96); Cooke **15**, 787; Sacc. II, 492. On *Aira caespitosa*, Batheaston, 1859. This fungus, which has one-septate ascospores, is probably not the same as *Calonectria graminicola*, q.v.

— **Peziza** (Tode ex Fr.) Cooke in **14** (XII, 110); Petch **28** (XXI, 263); Hooker **92**, 7, 1821 as *Sphaeria*; Greville **39**, t. 186, 1826; Berk. **20**, 262; Currey **45** (XXII, t. 57); Berk. Exs. 176; B. & Br. **19**, No. 971, 1861 as *Nectria*; Plowr. Exs. II, No. 7 and III, No. 7; *N. epigaea* Cooke in **14** (VIII, 10, 1879); Stevenson **13**, 362, 1879; *Byssonectria epigaea* Cooke in **14** (XII, 109); *Nectria aurea* (Grev.?) Cooke in **14** (VIII, 9); Stevenson **13**, 361; *Dialonectria aurea* Cooke in **14** (XII, 110); **14** (XV, 8). On old wood, etc. Petch places *Sphaeria aurea* Greville in **39**, t. 47, 1823 with *Hypomyces aurantius* p.p.

— **sanguinea** (Bolton ex Fr.) Cooke in **14** (XII, 110); Petch **28** (XXI, 264); *Sphaeria* Bolton in **111**, t. 121, 1789; Sibthorp *Fl. Oxon.* p. 404, 1794; Sowerby **42**, t. 254; Greville **39**, t. 175; Berk. **20**, 263; Currey **45** (XXII, t. 57); Cooke **15**, 785 as *Nectria*; Baxter Exs. 75; Plowr. Exs. III, No. 8; Greville **39**, t. 175, 1825 as *S. episphaeria* Tode; Berk. **20**, 263; Currey **45** (XXII, t. 57); Cooke **15**, 785 as *Nectria episphaeria*; Plowr. Exs. I, No. 11; *S. Purtoni* Greville in **39**, t. 23, 1823; Currey **45** (XXII, 282*); *Nectria Purtoni* (Grev.) Cooke in **15**, 786; Sacc. II, 498; Tul. **114** (III, 92). On old wood and Sphaeriales.

— **Veuillotiana** (Sacc. & Roum.) Cooke in **14** (XII, 110); Petch **28** (XXI, 266, 1938). Two collections, one on *Fagus*.

— **Wegeliana** (Rehm) Petch in **28** (XXI, 266, 1938). On *Diatrypella*.

[**Eleutheromyces subulatus** (Tode ex Fr.) Fuckel. British specimens examined by Petch **27** (LXXIII, 187) were found to be pycnidial.]

[**Erostrotheca multiformis** Martin & Charles. The conidia only, *Cladosporium album* Dowson = *Hyalodendron album* (Dowson) Diddens, known in Britain.]

Gibberella acervalis (Moug. in Fr.) Sacc. Petch **27** (LXXV, 226, 1937) and **28** (XXI, 281). On *Salix*, Norfolk.

— **Buxi** (Fuckel) Wint. Petch **28** (XXI, 281, 1938). On twigs of *Buxus*, 1934.

— **cyanogena** (Desm.) Sacc. Petch **28** (XXI, 280); **102** (XXXIV, 277); Massee **14** (XV, 9, 1886); **27** (XXIV, 133, 1886); Plowr. **28** (I, 64); Cooke **15**, 843 as *Gibbera Saubinetii*; Bucknall **46** (II, 349); Cooke Exs. II, No. 499; Plowr. Exs. I, No. 58; B. & Br. **19**, No. 868, 1859 as *Sphaeria Saubinetii* Mont.; Massee **14** (XV, 9, 1886) as *Gibberella Saubinetii*; **37** (1909, 375). Common on old stems of *Brassica*, etc. See *G. Zeae* below.

— **flacca** (Wallr.) Sacc. Massee **14** (XV, 9); Phill. & Plowr. **14** (VI, 25, 1877) as *Gibbera*; **14** (VII, 84). On *Solanum Dulcamara*, locality not given.

— **moricola** (de Not.) Sacc. Reported **77** (1926–27, 83, 1928) on *Morus*, Hants.

— **pulicaris** (Fr.) Sacc. Petch **28** (XXI, 280*); Massee **14** (XV, 9); Bennett **34** (XXII, 496); Berk. **19**, No. 175, 1841 as *Sphaeria*; Currey **45** (XXII, 282*); Berk. Exs. 253; Cooke **15**, 780 as *Nectria*; Tul. **114** (III, 67); Cooke Exs. II, No. 473; Plowr. Exs. I, No. 6; Vize Exs. 272. On stems and branches.

— **Saubinetii** (Mont.) Sacc. This name is used by the Plant Path. Comm. of the Brit. Myc. Soc. to include the species on cereals and grasses. See next and *G. cyanogena*.

— **Zeae** (Schwein.) Petch in **102** (XXXIV, 260, 1936); **28** (XXI, 281); **23** (XXXVI, 6) as *G. Saubinetii*; **34** (XVII, 43; XVIII, 158; XX, 377); **112**, 163. On cereals and grasses.

[**Gibsonia phaeospora** Massee. See under *Melanospora "cirrhata"*.]

Hyphonectria aureonitens (Tul.) Petch in **27** (LXXV, 220, 1937); **28** (XXI, 271*); Phill. & Plowr. **14** (X, 70, 1881) as *Hypomyces*; **14** (XI, 49*; XV, 6); *Nectriopsis* Maire in **102** (IX, 323). On *Stereum*. As Petch notes, *Nectriopsis* is the valid generic name.

— **Berkeleyana** (Plowr. & Cooke) Petch in **27** (LXXV, 220, 1937); **28** (XXI, 271); *Hypomyces* Plowr. & Cooke in **14** (XI, 48*, 1882); **14** (XV, 6); *Nectriopsis* Maire in **102** (IX, 324); "*Nectria rosella*" in **19**, No. 971*, 1861; Cooke **15**, 778 p.p. On *Stereum*, *Polyporus*, etc.

— **muscivora** (Berk. & Br.) Petch in **28** (XXI, 270, 1938); *Sphaeria* B. & Br. in **19**, No. 608, 1851; *Nectria* Berk. in **18**, 394; Cooke **15**, 786; *Dialonectria* Cooke in **14** (XII, 110); **14** (XV, 8); recorded **7**, 214 as *Byssonectria bryophila* (Rob. in Desm.) Cooke [in **14** (XII, 109)] but Petch **35** (1937, 283) considers this to have been *Dialonectria Peziza*. On mosses.

— **Solani** (Reinke & Berth.) Petch in **27** (LXXV, 220, 1937); **28** (XXI, 272); Pethybridge **28** (VI, 11, 1918) as *Hypomyces*; ?**23** (I, 59, 1894). On decaying potato tubers, Ireland.

— **violacea** (Schmidt in Fr.) Petch gen.nov. in **27** (LXXV, 220, 1937); **28** (XXI, 271); *Nectriopsis* Maire in **102** (IX, 323) Phill. & Plowr. **14** (VIII, 104, 1880) as *Hypomyces*; **40** (V, 234, 1880); **60** (XVI, 41, 1880); **14** (XI, 49*; XV, 5); *Hypomyces candicans* Plowr. in **14** (XI, 50*, 1882, nom. nud. in X, 70); **14** (XV, 6); Grove **27** (XXIII, 132, 1885, on *Stemonitis*). *Fuligo septica* is the usual substratum.

Hypomyces asterophorus Tul. Petch **28** (XXI, 274); Plowr. **14** (XI, 6, 1882); **14** (XV, 5). On *Nyctalis*, Norfolk.

— **aurantius** (Pers. ex Fr.) Tul. Petch **28** (XXI, 273*); B. & Br. **19**, No. 1102, 1865, and No. 1175; Cooke **15**, 777; **14** (XI, 44*; XV, 6); Plowr. Exs. I, No. 4; Berk. **20**, 259, 1836 as *Sphaeria*; Berk. **18**, 393 as *Nectria*. On *Polyporus*, etc.

[— **Baryanus** Tul. Grove **27** (XXII, 195); **14** (XV, 6). On *Nyctalis*, only conidia known.]

— **Broomeanus** Tul. in **114** (III, 108, 1865); Sacc. II, 469; Petch **28** (XXI, 274); B. & Br. **19**, No. 1175*, 1866; Cooke **15**, 778; Plowr. **14** (XI, 48*); Rabenh. *Fungi Eur.* No. 751 as *Hypocrea luteovirens*, coll. Broome. On *Fomes annosus*.

[**Hypomyces cervinus** Tul. **14** (VIII, 104; XI, 51*; XV, 6). Conidia only, on *Morchella*, etc.]

— **fulgens** (Fr.) Karst. Massee **14** (XV, 6). On *Polyporus*. A very doubtful record.

[— **Linkii** Tul. Bucknall **46** (IV, 150, 1884); **14** (XV, 50*). Conidia only, on *Boletus*, etc.]

[— **miliarius** Tul. Plowr. **14** (XI, 2). Conidia only, on *Russula*, Hereford.]

— **ochraceus** ([Pers.]) Tul. Petch **28** (XXI, 272); **27** (LXXV, 222); Currey **45** (XXII, t. 57, 1859); B. & Br. **19**, No. 1175*, 1866; **14** (XI, 45*); **15**, 777; *Cryptosphaeria aurantia* Greville in **39**, t. 78, 1824; *Hypomyces terrestris* Plowr. & Boud. in **14** (VIII, 105*, 1880); **14** (XI, 47*; XV, 6). On *Russula* and *Lactarius*.

[— **perniciosus** P. Magnus. Massee **33** (XIX, 325); **5**, 192; **23** (XII, 47); F. E. V. Smith **28** (X, 81). The *Mycogone* stage only is known.]

— **rosellus** (Alb. & Schw. ex Fr.) Tul. Petch **28** (XXI, 273); Plowr. **14** (XI, 42*); Cooke **15**, 778; Bucknall **46** (IV, 150); Greville **39**, t. 138, 1825 as *Sphaeria*; Berk. **20**, 259, 1836; Currey **45** (XXII, t. 57); *Nectria Albertini* B. & Br. in **19**, No. 971; Cooke **15**, 784. On *Stereum*, etc. Grove **1** (I, 159) thought that *Sphaeria epimyces* Berk. **19**, No. 187, 1841 was a *Hypomyces* "like *rosellus*".

[— **tuberosus** Tul. Plowr. **14** (XI, 2, 1882). Conidia only known.]

Hyponectria Buxi (Desm.) Sacc. Petch **28** (XXI, 246*), with synonymy; see also **71** (XL, 49); B. & Br. **19**, No. 639, 1852 as *Sphaeria*; Currey **45** (XXII, 283*, 1858); Berk. **20**, 272, 1836 as *S. atrovirens* var. *Buxi*. On leaves of *Buxus*.

Lasionectria aureola (Wint.) Sacc. Petch **28** (XXI, 267); A. Lorrain Smith **28** (III, 41, 1908) as *Nectria*. On *Meliola* on *Vaccinium*, Scotland.

— **flavida** (Corda) Cooke in **14** (XII, 112, 1884); Petch **28** (XXI, 267); **14** (XV, 8); B. & Br. **19**, No. 610, 1851 as *Sphaeria*. On wood.

— **lecanodes** (Ces.) Petch in **28** (XXI, 267*, 1938); Phill. & Plowr. **14** (VI, 25, 1877) as *Nectria*; *Dialonectria* Cooke in **14** (XII, 110); **14** (XV, 8). On lichens. See Keissler **119**, 276.

— **Leptosphaeriae** (Niessl) Petch in **28** (XXI, 268, 1938). On *Leptosphaeria*.

Letendraea helminthicola (Berk. & Br.) Weese. Petch **28** (XXI, 277*); *Nectria* B. & Br. in **19**, No. 896, 1859; Cooke **15**, 787; *Dialonectria* Cooke in **14** (XII, 111); Massee **14** (XV, 8). On *Helminthosporium*. See Sacc. II, 538 as *L. eurotioides* Sacc., the type species of the genus.

Melanospora brevirostris (Fuckel) von Höhnel. Petch **28** (XXI, 253); **27** (LXXIII, 220); *Ceratostoma Helvellae* Cooke in **14** (I, 175, 1873, nom. nud. on p. 143); **14** (VII, 79) as *Melanospora Helvellae*; **14** (XV, 9). On Discomycetes. See *M. Zobelii*.

— **caprina** (Fr.) Sacc. Petch **28** (XXI, 250); **27** (LXXIV, 191); Massee **14** (XV, 9); Cooke **15** 925*, 1871 as *Ceratostoma*; Bucknall **46** (II, 218); Stevenson **13**, 363, 1879 as *M. vervecina*; Phill. & Plowr. **14** (VIII, 105, 1880); **14** (XV, 9). On wood.

— **chionea** (Fr.) Corda. Petch **28** (XXI, 250); Stevenson **13**, 364, 1879; Phill. & Plowr. **14** (VIII, 105, 1880); **14** (XV, 9); **28** (V, 257). On needles of *Pinus*.

— **cirrhata** Berk., nom. nud. in Berk. Exs. 325, 1843; Cooke **14** (XVI, 102). On straw, King's Cliffe. This fungus was provided with an English description by Petch in **27** (LXXIV, 190, 1936) and **28** (XXI, 251*), but no Latin diagnosis has yet been published. Petch **27** (LXXIII, 221) considered that *Gibsonia phaeospora* Massee gen.nov. in **33** (XXIII, 336*, 1909, on *Saprolegnia*) might be the same. If so, *phaeospora* is the valid epithet.

— **damnosa** (Sacc.) Lindau. Petch **28** (XXI, 253, 1938). On *Ulmus*, Kew, 1932.

— **destruens** (Shear) Shear. Asthana and Lillian Hawker **33** (L, 325 and 699, 1936); Lillian Hawker **28** (XX, 313), physiology of sporulation. This fungus is not one of the Hypocreales.

— **discospora** Massee & Salm. in **33** (XV, 352*, 1901). On dung, "Kew". Petch **27** (LXXIV, 188) found only *Chaetomium murorum* on the type specimen, and while Massee & Salmon figured a perithecium of *Melanospora*, the spores were apparently those of *Chaetomium*.

— **fimbriata** (Rostrup) Petch in **28** (XXI, 253, 1938); Massee & Salmon **33** (XV, 351*, 1901) as *Sphaeroderma*. On dung, Kew. Petch saw no specimen.

[**Melanospora gigantea** Massee & Crossl. in **7**, 215, 1905 and *Sphaeroderma gigantea* Massee & Crossl. in Crossl. **35** (1901, 341) are nomina nuda, teste Petch **27** (LXXIII, 221). No *Melanospora* was found by Petch on Crossland's specimen.]

— **lagenaria** (Pers. ex Fr.) Fuckel. Petch **28** (XXI, 252); Cooke **14** (XVI, 102, 1888); **28** (II, 93; VI, 47). On *Polyporus*.

— **leucotricha** Corda. Petch **28** (XXI, 251); **28** (III, 210; XIX, 146). On leaves, etc. Petch found no British specimen.

— **parasitica** Tul. Petch **28** (XXI, 252; XVII, 178); Cooke **14** (X, 71*, 1881; XV, 9). On entomogenous fungi.

— **sphaerodermoides** Grove in **27** (XXIII, 132*, 1885); Sacc. IX, 950; Petch **28** (XXI, 253). On stems, Warwicks and Norfolk.

[— **vitrea** (Corda) Sacc. *Sphaeronema blepharistoma* Berk. in **19**, No. 57*, 1837 and No. 196, 1841; see Sacc. XX, 1270 as *M. vitrea*. Petch **27** (LXXIV, 189) finds this fungus to be a *Sphaeronemella*.]

— **Zamiae** Corda. Petch **28** (XXI, 251); Mason, *Annotated Acct. Fungi recd. at I.M.I.*, List II, fasc. 2, 1933; *Ampullaria aurea* A. Lorrain Smith gen.nov. in **27** (XLI, 258*, 1903). On damp, decaying plants.

— **Zobelii** (Corda) Fuckel. Petch **27** (LXXIII, 217) and **28** (XXI, 254); *Ceratostoma* Berk. in **18**, 402, 1860; Cooke **15**, 926; **14** (XV, 9). On truffles. No British specimen was found by Petch who thinks it may prove to be the same as *M. brevirostris*, which was identified as *M. Zobelii* in **28** (IV, 314; VI, 145 and 365).

Nectria Aquifolii (Fr.) Berk. in **18**, 393, 1860; Sacc. II, 487; Petch **28** (XXI, 259); Tul. **114** (III, 87*); Chesters **113** (1936, 127*); Cooke **15**, 782; Massee **14** (XV, 5); Plowr. Exs. II, No. 6; Vize Exs. 373; Cooke Exs. 260; Berk. **20**, 253, 1836 as *Sphaeria*; Currey **45** (XXII, 283*); *N. inaurata* B. & Br. in **19**, No. 781, 1854; **31** (22 July 1854*); **18**, 393*; Currey **68**A (III, 270); **7**, 212; Cooke Exs. II, No. 476; Plowr. Exs. I, No. 10; *Aponectria inaurata* (B. & Br.) Sacc. in *Mich.* I, 296. On *Ilex*.

— **cinnabarina** (Tode ex Fr.) Fr. Petch **28** (XXI, 255); Cooke **15**, 781; **31** (Feb. 28, 1871); Line **28** (VIII, 23, parasitism); **23** (VII, 6; XI, 202; XIV, 107; XVI, 297; **62** (XII, 83; XXIV, 110); **64** (XVII, 344); **65** (XI, 469; XXX, 338); **76** (VI, 125); **77** (1934, 146; 1936, 188); **78** (1919, 32); **79** (XI, 51); **85** (XXVI, 165; XXVII, 87; XXXIII, 21); **94** (XIII, 56 and 139); **112**, 159; Cooke Exs. 259 and II, No. 474; Plowr. Exs. I, No. 7; Berk. **20**, 252, 1836 as *Sphaeria*; Currey **45** (XXII, 282*); *Cucurbitaria* Greville in **39**, t. 135, 1825; Baxter Exs. 26; *S. fragiformis* Sowerby in **42**, t. 256, 1800; Hooker **92**, 6, 1821 as *S. decolorans*; *S. ochracea* Grev. & Fr. in *Elenchus* II, 79, 1828; Berk. **20**, 252; Cooke **15**, 781 as *N. ochracea*; Massee **14** (XV, 5); *N. fuscopurpurea* Wakef. in **37** (1918, 232). Common on branches.

— **citrino-aurantia** (de Lacr.) Desm. Petch **28** (XXI, 261); B. & Br. **19**, No. 1492*, 1875; Cooke **14** (II, 164, 1874; IV, 68; VII, 78); Massee **14** (XV, 5). On *Salix*, Batheaston.

— **coccinea** (Pers. ex Fr.) Fr. Petch **28** (XXI, 257*); Cooke **15**, 782, 1871; **46** (II, 349); Massee **14** (XV, 5); **65** (XXX, 349); **112**, 162; Plowr. Exs. I, No. 8; Vize Exs. 152; Hooker **92**, 7, 1821 as *Sphaeria*; Berk. **20**, 253; Currey **45** (XXII, 282*); Baxter Exs. 25 as *Cucurbitaria*; *S. Mori* Sowerby in **42**, t. 255, 1800. Common on dead branches.

— **Coryli** Fuckel. Petch **28** (XXI, 259, 1938). On branches of deciduous trees and shrubs. See next entry.

— **cucurbitula** (Tode ex Fr., p.p.) Sacc. Petch **28** (XXI, 258) states that most British records refer to *N. Coryli*: Ward **56** (XIV, 138 and 140, 1892); **89**, 225*; **64** (XVII, 279); **68** (1881, 84); **14** (IV, 16; IX, 118; XV, 4); Berk. **19**, No. 174, 1841 as *Sphaeria*; B. & Br. **19**, No. 609, 1851; Currey **45** (XXII, 282*). On coniferous logs. Petch records two localities in Scotland.

— **galligena** Bres. This is the name accepted by the Plant Path. Comm. of the Brit. Myc. Soc. Literature under *Dialonectria*.

Nectria inventa Pethybridge in **28** (VI, 107, 1919); Petch **28** (XXI, 257). On potatoes and *Brassica*, Ireland and Norfolk. The perfect state of *Acrostalagmus cinnabarinus* Corda.

— **Magnusiana** Rehm. Petch **28** (XXI, 260, 1938); conidial stage reported by Grove **27** (LVI, 286, 1918). On *Diatrypella*.

— **mammoidea** Phill. & Plowr. in **14** (III, 126*, 1875); Petch **28** (XXI, 260); **35** (Sept. 1881); **46** (III, 268); **7**, 212; Plowr. Exs. II, No. 5. On *Ulex*, etc.

— **mammoidea** var. **Rubi** (Osterw.) Weese. Petch **28** (XXI, 260); Pethybridge (*Rept. Council Royal Dublin Soc.* for 1916, p. 63) as *N. Rubi*; **28** (XII, 20); Mrs N. L. Alcock **65** (XXIV, 197, 1925; XXX, 340); **78** (1925, 146); **112**, 163. On *Rubus*.

— **ochroleuca** (Schwein.) Berk. Petch **28** (XXI, 261, 1938). On *Ulmus*.

— **pallidula** Cooke in **14** (XVII, 3, 1888); Petch **28** (XXI, 261). On wood.

— **punicea** (Kunze & Schm. ex Fr.) Fr. Petch **28** (XXI, 257); Cooke **27** (IV, 101, 1866); **15**, 781; **46** (VI, 33); **14** (XV, 4); **70** (XXI, 399); *N. ditissima* Tul. in **114** (III, 72, 1865); Phill. & Plowr. **14** (VIII, 105, 1880); **68** (1881, 85); **14** (IX, 116; XV, 5); Plowr. **31** (Mar. 8 and Apr. 19*, 1884); **56** (1888, 52); **89**, 119*; **33** (XXV, 79, comparison with *N. galligena*, with which it was confused); **5**B, 127*; **23** (II, V, VI, VII, VIII, XIII, XIV, XV, XXIV); **37** (1911, 338, 341); **61** (CVI, 581); **56** (XX, XXII, XXIII, XXVII); **103** (IV, 76); **78** (1913, 80; 1914, 94; 1919, 23; 1920, 82; 1921, 70; 1922, 71). On branches.

— **Ralfsii** Berk. & Br. in **19**, No. 780, 1854; Sacc. II, 503; Petch **28** (XXI, 256); Cooke **15**, 783; **35** (Sept. 1881); **14** (XV, 5); **5**, 212. On branches.

— **sinopica** (Fr.) Fr. Petch **28** (XXI, 258); Cooke **15**, 782; **14** (XV, 4); Tul. **114** (III, 89); Cooke Exs. II, No. 477; Plowr. Exs. I, No. 9; Vize Exs. 154; Berk. **19**, No. 97, 1838 as *Sphaeria*; Currey **68**A (III, 270)*. On *Hedera*.

[— **Solani** Reinke & Berth. Recorded **23** (XI, 676; XIII, 739) and **5**, 180*, but Pethybridge **28** (VI, 105) and Petch **28** (XXI, 259) know of no reliable record.]

— **subquaternata** Berk. & Br. in **36** (XIV, 116, 1873); Petch **27** (LXXIV, 187, 1936); **28** (XXI, 256); *N. Keithii* B. & Br. in **19**, No. 1625, 1876; **14** (V, 62, 1876; VII, 78). On *Brassica*.

— **umbrina** (Berk.) Fr. Berk. **18**, 394; Cooke **15**, 788; *Sphaeria* Berk. in **20**, 264, 1836. Petch **28** (XXI, 301) states that this belongs to the Sphaeriaceae.

Nectriella Bloxami (Berk. & Br.) Fuckel in *Symb. Myc.* Nachtr. III, 21, 1875; Petch **28** (XXI, 269); *Nectria* B. & Br. in **19**, No. 781, 1854; Cooke **15**, 787; Tul. **114** (III, 95); *Dialonectria* Cooke in **14** (XII, 110); Massee **14** (XV, 7). On *Helianthus*, Twycross.

— **chrysites** (Westend.) Sacc. Recorded with doubt by Grove **27** (XXIV, 133, 1886) on *Fraxinus*, Warwicks.

— **dacrymycella** (Nyl.) Rehm. Petch **28** (XXI, 269, 1938) found only one specimen, that recorded by Bucknall **46** (III, 268*, 1882) as *N. arenula* on *Iris*. *N. dacrymycella* was recorded, apparently in error, by Phill. & Plowr. **14** (XIII, 78) and by Bucknall **46** (IV, 59).

— **funicola** (Berk. & Br.) Petch in **35** (1937, 281); **28** (XXI, 269); *Sphaeria* B. & Br. in **19**, No. 611, 1851; Cooke **15**, 784 as *Nectria*; *Nectria fibricola* Plowr. apud Sacc. in *Mich.* II; *Dialonectria fibricola* Cooke in **14** (XII, 111); **14** (XV, 8). On rope, etc.

— **Robergei** (Mont. & Desm.) Weese. Petch **28** (XXI, 270*); *Nectria Peltigerae* Phill. & Plowr. in **14** (IV, 123, 1876). On *Peltigera*. See Keissler **119**, 281.

[**Nectriopsis** Maire is the valid name for *Hyphonectria* (Sacc.) Petch, q.v., for species known to have been transferred.]

[**Neocosmospora vasinfecta** E. F. Smith. Russell & Pethybridge **23** (XVIII, 818, 1912), "Wilt fungus of cucumbers and melons".]

Neohenningsia suffulta (Berk. & Curt.) Petch in **28** (XXI, 268*, 1938); *Nectria ornata* Massee & Salm. in **33** (XVI, 75*, 1902). On dung, Kew. Von Höhnel (*Frag. Myk.* No. 755) suggested *Hyphonectria* and *Neohenningsia*, but did not make the combination.

Ophionectria cylindrospora (Sollm.) Berl. & Vogl. Petch **28** (xxi, 284*, 1938). On *Pinus*.

Orcadia Ascophylli Sutherland gen.nov. in **28** (v, 151*, 1914); Sacc. xxiv, 678; Petch **28** (xxi, 283*). On *Ascophyllum*, Orkney.

— **pelvetiana** Sutherland in **32** (xiv, 183*, 1915); Sacc. xxiv, 678; Petch **28** (xxi, 283). On *Pelvetia*.

Paranectria affinis (Grev.) Sacc. gen.nov. in *Mich.* i, 317, 1878; *Syll.* ii, 552; Petch **27** (lxxv, 228); **28** (xxi, 282*); *Sphaeria* Grev. in **39**, t. 186, 1826; *Nectria* Fr. in Tul. **114** (iii, 95); **13**, 362; **14** (viii, 9); *Dialonectria* Cooke in **14** (xii, 110); Massee **14** (xv, 8). On *Ephebe*, Scotland.

Pleonectria berolinensis Sacc. Petch **27** (lxxiv, 187, 1927); **28** (xxi, 286*). On *Ribes*. Petch found one specimen doubtfully British. The records of *Nectria Ribis* Rabenh. in **14** (viii, 105; xv, 4), Vize Exs. 153 and Plowr. Exs. iii, No. 11, were found to refer to *N. cinnabarina*; that in **23** (xvii, 301, 1910) was admitted to be uncertain.

— **Lamyii** (Desm.) Sacc. Recorded by Phill. & Plowr. **14** (x, 70, 1881) as *Nectria*; Massee **14** (xv, 5). On *Berberis*. Not included by Petch.

Protocrea delicatula (Tul.) Petch in **27** (lxxv, 219, 1937); **28** (xxi, 276*); B. & Br. **19**, No. 1176, 1866 as *Hypocrea*; Cooke **15**, 775. On old coniferous wood, Lucknam. Other British records erroneous.

— **farinosa** (Berk. & Br.) Petch gen.nov. in **27** (lxxv, 219, 1937); **28** (xxi, 276); *Hypocrea* B. & Br. in **19**, No. 592, 1851; Sacc. ii, 529; Cooke **15**, 776; Massee **14** (xv, 3). On old wood and fungi.

Pseudonectria furfurella (Berk. & Br.) Petch in **28** (xxi, 249, 1938); *Nectria* B. & Br. in **19**, No. 1331*, 1871; Cooke **14** (i, 155). On *Brassica*, Batheaston. The type (and only) specimen now appears to be without perithecia, teste Petch.

— **Rousseliana** (Mont.) Wollenw. Petch **28** (xxi, 249*); Tul. **114** (iii, 97, 1865) as *Nectria*; Cooke **15**, 788, with vars., see B. & Br. **19**, No. 898, 1859; Bucknall **46** (iv, 59); ?Berk. **19**, No. 182, 1841 as *Sphaeria fulva* Fr. On leaves of *Buxus*.—Wollenweber in *Fus. autogr. del.* No. 665, 1930, appears to have been the first to make the combination *P. Rousseliana*.

Rhynchonectria longispora (Phill. & Plowr.) von Höhnel gen.nov. in *Fragm. Mykol.* No. 32; Petch **28** (xxi, 277); *Eleutheromyces* Phill. & Plowr. in **14** (xiii, 78, 1885); Sacc. ix, 942; **14** (xv, 7); *Eleutherosphaeria* Grove gen.nov. in **27** (xlv, 171, 1907). On *Myxomycetes*. Petch found no specimen. See Grove **27** (1932, 2).

Sphaeroderma episphaerium (Phill. & Plowr.) Sacc. in *Syll.* ii, 460; Petch **28** (xxi, 254); **27** (lxxiv, 191); *Melanospora* Phill. & Plowr. in **14** (x, 71*, 1881); **14** (xv, 9). On *Hypomyces*.

— **fusisporum** Petch in **35** (1936, 58); **28** (xxi, 254*). On *Isaria*, Yorks and Norfolk.

— **Hulseboschii** Oudem. Massee & Salmon **27** (xv, 352*, 1901); Petch **28** (xxi, 255, no specimen available). On dung, Surrey.

[— **Sepultariae** Wheldon nom. nud. in **28** (vi, 145, 1919). On *Sepultaria*.]

Sphaerostilbe aurantiaca Tul. Petch **28** (xxi, 262*); Phill. & Plowr. **14** (x, 70, 1881); **14** (xv, 5); *Nectria* Wollenw. in *Fus. autogr. del.* t. 789. On *Ulmus*.

— **flammea** Tul. Petch **28** (xxi, 262; vii, 115, 1921). On scale insects.

— **flavoviridis** Fuckel. Petch **28** (xxi, 263, 1938); Wollenw. *Fus. autogr. del.* t. 1103 as *Nectria*. On wood.

[— **gracilipes** Tul. Recorded by Crossland **7**A, 278, 1904 and **7**, 211. Petch **35** (1937, 283) and **27** (lxxv, 226) found these specimens to be *Stilbella pellucida*.]

Torrubiella aranicida Boud. Petch **28** (xxi, 285*, 1938); **35** (1936, 274; 1937, 282). On spiders, Yorks.

Trailia Ascophylli Sutherland gen.nov. in **28** (v, 149*, 1915); Sacc. xxiv, 690; Petch **28** (xxi, 286*). On *Ascophyllum*, Orkney.

Trichonectria hirta (Bloxam) Petch in **35** (1937, 282); **28** (xxi, 285*); *Nectria* Bloxam apud Currey in **45** (xxiv, 158*, 1863); B. & Br. **19**, No. 1101, 1865; Tul. **114** (iii, 108); Cooke **15**, 783; *Lasionectria* Cooke in **14** (xii, 112); Massee **14** (xv, 8); *Calonectria vermispora* Massee & Crossl. in **35** (1904, 4*); **7**A, 279; **7**, 214. On old wood.

HYPOCREACEAE

Chromocrea aureoviridis (Plowr. & Cooke) Petch in **28** (xxi, 293, 1938); *Hypocrea* Plowr. & Cooke in **14** (viii, 104, 1880); Sacc. ii, 525; **14** (xv, 3); **18**A, 360. On *Corylus*, Norfolk, 1879.

— **cupularis** (Fr.) Petch in **28** (xxi, 293, 1938); *Hypocrea dacrymycella* Cooke & Plowr. in **14** (xii, 100, 1884); Sacc. *Addit. I–IV*, 207; **14** (xv, 3); *H. viscidula* Phill. & Plowr. in **14** (xiii, 79, 1885). On coniferous logs, Brandon, 1881.

— **gelatinosa** (Tode ex Fr.) Seaver. Petch **27** (lxxv, 229); **28** (xxi, 292); Cooke **15**, 774 as *Hypocrea*; Massee **14** (xv, 3); **37** (1909, 375); Plowr. Exs. i, No. 3; Vize Exs. 375; Berk. **20**, 238, 1836 as *Sphaeria*; *H. moriformis* Cooke & Massee in **14** (xvii, 3, 1888); Sacc. ix, 926; **18**A, 360. On wood.

[**Claviceps Junci** Adams in **48** (xvi, 168*, 1907), a *Sphacelia* stage only, on *Juncus*, Ireland.]

Claviceps nigricans Tul. Cooke **15**, 773, 1871; Massee **14** (xv, 2); Petch **28** (xxi, 300). Sclerotium only known in Britain, on *Eleocharis*.

— **purpurea** (Fr.) Tul. Petch **28** (xxi, 299*); Cooke **15**, 772; **27** (xiii, 15); **14** (vi, 25); **5**, 223*; **23** (xiv, 558; xviii, 762; xxxv, 301; xxxvi, 139); **35** (July 1935; 1937, 25); **56** (xxvii, p. cxcvii); **63** (2, x, 443*); **65** (v, 149; xii, 418; xxx, 338); **75** (xxxiv, 235; xxix, 51; xxxiii, 204); **79** (vi, 27; xi, 44); **81**, 214; **89**, 235*; **97**, 135; **103** (iv, 421); **112**, 167*; *Cordyceps* Berk. in **31** (1856, 549, reported as sometimes associated with bunt in wheat); B. & Br. **19**, No. 828, 1859; **18**, 382; Currey **45** (xxi, t. 45); and many other reports; Cooke **15**, 772 as *Claviceps microcephala* Tul.; **65** (xii, 430); **81**, 238; B. & Br. **19**, No. 828, 1859, as *Cordyceps microcephala*. On grasses. Early references to the sclerotia are Baker **66** (xii, 208, reported in 1765) and **45** (xviii, 449 and 475).

Cordyceps capitata (Holmsk. ex Fr.) Link. Petch **27** (lxxiii, 223); **28** (xxi, 296); **14** (xv, 2); **35** (1915, 223*; 1916, 77); **64** (xlvii, 14); Cooke **15**, 771 as *Torrubia*; **14** (viii, 103); Berk. **20**, 233, 1836 as *Sphaeria*; Currey **45** (xxii, t. 45). On *Elaphomyces*.

— **entomorrhiza** (Dickson ex Fr.) Link. Petch **28** (xvii, 173; xxi, 297) finds that Dickson's original collection, *Sphaeria* Dickson in **44**, 22*, 1785, is the only known British collection. On larva of beetle.

— **Forquignoni** Quél. Petch **28** (xxi, 298 and xvii, 173); "*Hypocrea myrmecophila*" in **19**, No. 591, 1851; C. Rea **28** (iv, 314) as *Cordyceps myrmecophila*. On flies.

— **gracilis** (Greville?) Dur. & Mont. Petch **28** (xvii, 173; xxi, 297* with note that most British records of *C. entomorrhiza* belong here; see Tul. **114** (iii, 15*)); F. A. Mason **35** (1935, 165*); *C. Mawlei* Westwood in **31** (1891, 553*); Massee **33** (ix, 38). On buried larvae of Lepidoptera. There seems to be doubt about the identity of *Xylaria gracilis* Grev. in **39**, t. 86, 1824.

— **militaris** (Linn. ex Fr.) Link. Petch **28** (xxi, 296; xx, 216; xvii, 172); **18**, 282*; **33** (ix, 30); **65** (xxxi, 521); Ramsbottom, *Handbook of the Larger British Fungi*, p. 192*; Bolton **111**, t. 128, 1789 as *Sphaeria*; Purton **55**, t. 23; Sowerby **42**, t. 60, 1796; Berk. **20**, 232; Currey **45** (xxii, 262*); *Torrubia* Tul. in **114** (iii, 5, 1865); Cooke **15**, 770*; Plowr. Exs. iii, No. 1. On larvae and pupae of Lepidoptera.

— **ophioglossoides** (Ehrh. ex Fr.) Link. Petch **28** (xxi, 295); **27** (lxxiii, 224); Berk. **31** (1860, 792*); **81**, 61*; **33** (xv, 521); **64** (xlvii, 14); **65** (xxxii, 243 and 380); Bolton **111**, t. 128, 1791 as *Sphaeria*; Sowerby **42**, t. 60, 1796; Berk. **20**, 233; **19**, No. 92*, 1838; Currey **45** (xxii, 263*); *Torrubia* Tul. in **114** (iii, 20); Cooke **15**, 771; Vize Exs. 477; Plowr. Exs. i, No. 1. On *Elaphomyces*.

Cordyceps sphecocephala (Klotz. ex Berk.) Berk. & Curt. in **36** (1867, 376, by a slip as "*sphecophila*"); Sacc. II, 567; Petch **28** (XXI, 297; XVII, 173); **14** (XV, 2); *Sphaeria* Klotz. ex Berk. in **21** (II, 206, 1843); *Torrubia* Tul. in **114**. On Hymenoptera.

[— **sphingum** (Tul.) Sacc. Phill. & Plowr. **14** (VI, 126, 1878); Massee **14** (XV, 2); **33** (IX, 34). "Conidia on moths."]

Epichloe typhina (Pers. ex Fr.) Tul. Petch **28** (XXI, 294*); Cooke **15**, 773*, 1871; **89**, 242*; Massee **14** (XV, 2); **5**B, 125*; **5**, 224*; Kathleen Sampson **28** (XVII, 30*, systemic infection); **112**, 166; **79** (III, 24; V, 29; XI, 44); **80**, 47; Vize Exs. 92; Cooke Exs. 186 and II, No. 233; Hooker **92**, 6, 1821 as *Sphaeria*; Berk. **20**, 285; Currey **45** (XXII, 265); *Hypocrea* Berk. in **18**, 383; **31** (1856 517) as *Dothidea*; *Stromatosphaeria* Greville in **39**, t. 204, 1826; *Sphaeria spiculifera* Sowerby in **42**, t. 274, 1800. On living stems of grasses.

Hypocrea argillacea Phill. & Plowr. in **14** (XIII, 79, 1885); Sacc. *Addit. I–IV*, 207; Petch **28** (XXI, 291); **14** (XV, 3); **18**A, 360. On wood.

— **citrina** (Pers. ex Fr.) Fr. Petch **28** (XXI, 292); Cooke **15**, 775; **14** (XV, 3); Greville **39**, t. 215, 1826 as *Sphaeria*; Berk. **20**, 238; Currey **45** (XXII, t. 46). On wood, earth, etc.

[— **lactea** (Fr.) Fr. Petch **27** (LXXV, 218) and **28** (XXI, 292) finds British specimens so recorded to be misidentified. Reported **14** (X, 70; XV, 3); **28** (III, 380); **18**A, 360.]

— **lutea** (Tode ex Fr. as var.) Petch in **27** (LXXV, 231, 1937); **28** (XXI, 291). Petch raises *Sphaeria gelatinosa* var. *lutea* Tode to specific rank and records specimens of Currey **45** (XXII, 265, 1858) and one of Hawley. On leaves.

— **placentula** Grove in **27** (XXIII, 133*, 1885); Sacc. *Addit. I–IV*, 207; Petch **28** (XXI, 292). On *Juncus*, Warwicks.

— **pulvinata** Fuckel. Petch **28** (XXI, 289); **27** (LXXIII, 189); **28** (III, 380); Phill. & Plowr. **14** (VIII, 104, 1880) as *H. citrina* f. *fungicola*; **14** (XV, 3) as *H. fungicola*. On *Polyporus betulinus* and other species. See Weese in *Mitt. Bot. Lab. Hochsch. Wien*, IV, 31, 1927.

— **rufa** (Pers. ex Fr.) Fr. Petch **28** (XXI, 290*); Tul. **114** (III, 30); Berk. **18**, 383; Cooke **15**, 774*; **14** (XV, 3); **46** (VI, 194); Berk. **20**, 238, 1836 as *Sphaeria*; Currey **45** (XXII, 266*). On wood, etc.

— **Schweinitzii** (Fr.) Sacc. Petch **28** (XXI, 290); **27** (LXIII, 190; LXXV, 217); B. & Br. **19**, No. 1395*, 1873 as *H. lenta*; Phill. & Plowr. **14** (IV, 123, 1876) as *H. contorta*; **14** (VII, 77; XV, 3); **18**A, 361; Phill. & Plowr. **14** (VIII, 104, 1880) as *H. rigens*. On wood.

— **splendens** Phill. & Plowr. in **14** (XIII, 79, 1885); Sacc. *Addit. I–IV*, 206; Petch **28** (XXI, 290); **14** (XV, 3). On *Laurus*.

— **strobilina** Phill. & Plowr. in **14** (XIII, 79, 1885); Sacc. *Addit. I–IV*, 206; Petch **28** (XXI, 292); **14** (XV, 3). "On cones of spruce. No specimens available."

— **tremelloides** (Schum. ex Fr.) Fr. Phill. & Plowr. **14** (VIII, 104, 1880); **18**A, 359; **14** (XV, 3). On wood.

Hypocreopsis lichenoides (Tode ex Fr.) Seaver. Petch **28** (XXI, 288*, 1938); *Sphaeria riccioidea* Bolton in **111**, t. 182, 1791; Berk. **19**, No. 95, 1838; *Hypocrea riccioidea* Berk. in **18**, 363, 1860; Cooke **15**, 774; **40** (IV, 304); **14** (VIII, 9; XV, 4); **7**, 211; *Hypocreopsis riccioidea* Karst. in *Myc. Fenn.* 251, 1873; Crossland **35** (1908, 371*); B. & Br. **19**, No. 1831, 1879 as *Hypocrea parmelioides*; **13**, 358. On *Salix*. Fries included both *Acrospermum lichenoides* Tode and *S. riccioidea* as lichens.

Oomyces carneo-albus (Lib.) Berk. & Br. gen.nov. in **19**, No. 590, 1851; Sacc. II, 564; Petch **28** (XXI, 294*); **27** (LXXV, 217); Cooke **15**, 780*; **14** (XV, 7); Tul. **114** (II, 257). On *Aira*.

Ophiocordyceps clavulata (Schwein.) Petch in **28** (XVIII, 53, 1933); **28** (XXI, 299*); Massee **33** (IX, 22) as *Cordyceps*; **28** (XVII, 173); *C. pistillariiformis* B. & Br. in **19**, No. 969*, 1861; *Torrubia pistillariiformis* Cooke in **15**, 771, 1871; **14** (VII, 77). On *Lecanium*.

Podostroma alutaceum (Pers. ex Fr.) Atkinson. Petch **28** (xxi, 289*); Berk. **20,** 235, 1836 as *Sphaeria*; Currey **45** (xxii, 264); B. & Br. **19,** No. 827, 1859 as *Cordyceps* [comb.n.?]; **18,** 382; Cooke **15,** 775 as *Hypocrea*; **14** (viii, 104; xv, 3); **27** (xliii, 320); Ramsbottom, *Handbook of the Larger British Fungi*, p. 193*; Plowr. Exs. ii, No. 3; *S. clavata* Sowerby in **42,** t. 159, 1798. Amongst conifers.

Polystigma fulvum (DC. ex Fr.) Chev. Cooke **15,** 804; Massee **14** (xv, 4); Cooke Exs. ii, No. 578; Berk. **20,** 286, 1836 as *Dothidea*; **18,** 391; Cooke Exs. 464; Petch **28** (xxi, 287) as *P. ochraceum*. On leaves of *Prunus Padus*. Fries accepted the epithet "*fulvum*", but placed it in *Dothidea*; Chevallier in 1826 seems to have been the first after Fries to use again the genus *Polystigma* DC.

— **rubrum** (Pers. ex Fr.) Chev. Petch **28** (xxi, 286*); Cooke **15,** 803*; Stevenson **13,** 364; Grove **68** (xxiv, 328); **5B,** 135*; **33** (xxvi, 761, life history); **53** (lvi, 507); **56** (xxvii, 939); **89,** 127*; **112,** 166; Cooke Exs. 182 and ii, No. 577; Baxter Exs. 32; Plowr. Exs. ii, No. 15; Hooker **92,** 9, 1821 as *Xyloma*; Purton **55,** 316*, 1821; Greville **39,** t. 120, 1824; *Dothidea* Fr. in *Systema*; Berk. **20,** 286, 1836. On leaves of *Prunus spinosa* and *P. insititia*.

Selinia pulchra (Wint.) Sacc. Petch **28** (xxi, 287*); **35** (1937, 283); Phill. & Plowr. **14** (iv, 123, 1876) as *Hypocreopsis*; Plowr. Exs. ii, No. 100; *Hypocrea* Cooke & Plowr. in **14** (vii, 78); **14** (xv, 4). On dung of sheep. Karsten proposed the genus *Selinia*, but did not make the combination.

LOPHIOSTOMATACEAE

Lophidium compressum (Pers. ex Fr.) Sacc. Massee **14** (xvii, 58); Hawley **35** (1913, 341); Bucknall **46** (v, 52, 1886) as *Lophiostoma*; Phill. & Plowr. **14** (viii, 107, 1880) as *Lophiostoma angustatum*. On *Salix*.

Lophiella cristata ([Pers.]) Sacc. Massee **14** (xvii, 57, 1889) as *Lophiostoma*. On branches.

Lophiosphaera pulveracea (Sacc.) Sacc. Bucknall **46** (v, 48* and 52, 1886) as *Lophiostoma*. Pill, near Bristol. Host not cited.

Lophiostoma Arundinis (Fr.) Ces. & de Not. Cooke **15,** 852; **65** (ix, 332*, 1868); **46** (v, 52); **14** (xvii, 58); Vize Exs. 490; Plowr. Exs. i, No. 60; Berk. **19,** No. 27, 1837 as *Sphaeria*; Currey **45** (xxii, 330*); Berk. Exs. 87. "On reeds and grasses."

— **Arundinis** var. **Tritici** B. & Br. in **19,** No. 639, 1852. On *Triticum*. King's Cliffe.

— **balsamianum** (Ces. & de Not.) Sacc. & Berl. See *L. excipuliforme* below.

— **bicuspidatum** Cooke in **65** (ix, 328*, 1868); **15,** 848; Bucknall **46** (ii, 349); **14** (xvii, 58); Cooke Exs. 661. On twigs. See Grove **27** (1933, 286) and *L. simillimum*.

— **caulium** (Fr.) Ces. & de Not. Cooke **65** (ix, 331*, 1868); **15,** 851; **46** (v, 52); **35** (June 1894); **7,** 232; **14** (xvii, 58); B. & Br. **19,** No. 982, 1861 as *Sphaeria*. On *Epilobium*, etc.

— **excipuliforme** (Fr.) Ces. & de Not. Cooke **65** (ix, 330, 1868); **15,** 851; **14** (xv, 58); Berk. **20,** 266, 1836 as *Sphaeria*. On bark, etc. Also recorded by B. & Br. **19,** No. 880*, 1859 as *Sphaeria*, but Berlese **98** (i, 15) refers this record to *L. balsamianum*.

— **fibritectum** (Berk.) Ces. & de Not. in *Schema*, p. 46; Sacc. ii, 696; Cooke **65** (ix, 329); **15,** 850; **46** (v, 52); *Sphaeria* Berk. in **21** (1853, 43*); B. & Br. **19,** No. 777, 1854. On wood of *Larix*.

— **insidiosum** (Desm.) Ces. & de Not. Grove **27** (lxxi, 285*, 1933). On *Lavatera*, Guernsey.

— **macrostoma** (Tode ex Fr.) de Not. Cooke **65** (ix, 327*, 1868); **15,** 848; **13,** 383; B. & Br. **19,** No. 881, 1859 as *Sphaeria*; Currey **45** (xxii, 321*, 1859). On branches. Berlese **98** (i, 15) refers Currey's record to *L. excipuliforme*.

— **microstoma** Niessl. Listed by Corner **28** (xix, 284, 1935). Wicken Fen, Cambs.

Lophiostoma quadrinucleatum Karst. Phill. & Plowr. **14** (VIII, 107, 1880); **14** (XVII, 57). On *Rhamnus*, Norfolk.
— **simillimum** Karst. Cooke **65** (IX, 328, 1868) and **15**, 842 as *L. bicuspidatum* var., teste Berlese **98** (I, 12). On *Clematis*, Surrey. Grove **27** (1933, 286) thought Cooke's variety to be *L. insidiosum*.
— **Ulicis** Nits. Massee **37** (1909, 374). On *Ulex*, Kew.
— **vagans** Fabre. Bucknall **46** (V, 127* and 132, 1887). "On stick of mahogany", near Bristol.
— **viridarium** Cooke in **65** (IX, 328*, 1868); **15**, 849; **14** (XVII, 57); Sacc. II, 691. On *Acer*, Surrey. Berlese **98** (I, 10*) considers the later *L. Desmazierii* Sacc. & Speg. a synonym.
Lophiotrema angustilabrum (Berk. & Br.) Sacc. in *Mich.* I, 338; *Syll.* II, 687; Grove **60** (1886, 36) and **27** (XXIV, 133); *Sphaeria* B. & Br. in **19**, No. 881, 1859; *Lophiostoma* Cooke in **65** (IX, 330*, 1868); **15**, 850; **13**, 384; **46** (IV, 59); Plowr. Exs. II, No. 49; Vize Exs. 280; *Lophiosphaera* Cooke in **14** (XVII, 26); Massee **14** (XVII, 57). On branches. Berlese **98** (I, 6) thought this a synonym of *L. praemorsum*.
— **Curreyi** Sacc. in *Syll.* IX, 1078, 1891, based on the homonym *Lophiostoma hysterioides* Currey ex Cooke in **14** (XVIII, 74, 1890). On wood, Chislehurst.
— **Hederae** (Fuckel) Sacc. Boyd **28** (IV, 71); Cooke **14** (III, 67, 1874) as *Lophiostoma*; *Lophiosphaera* Cooke in **14** (XVII, 25); Massee **14** (XVII, 57). On *Hedera*.
— **nucula** (Fr.) Sacc. Berk. **20**, 266, 1836 as *Sphaeria*; Cooke **15**, 849 as *Lophiostoma* [where he states his reference **65** (IX, 329*, 1868) was to *L. gregarium* Fuckel. The latter is apparently not known in Britain]; Bucknall **46** (V, 52); *Lophiosphaera* Cooke in **14** (XVII, 25); Massee **14** (XVII, 57). On bark of *Quercus*.
— **praemorsum** (Lasch) Sacc. *Lophiosphaera* Cooke in **14** (XVII, 25); Massee **14** (XVII, 57); *Sphaeria Jerdoni* B. & Br. in **19**, No. 975*, 1861; *Lophiostoma Jerdoni* Cooke in **65** (IX, 331*, 1868); **15**, 851; **13**, 384; Berl. **98** (I, 6). On *Rubus*, etc. See *L. angustilabrum* and next two.
— **semiliberum** (Desm.) Sacc. B. & Br. **19**, No. 641, 1852 as *Sphaeria*; Cooke **65** (IX, 332, 1868) as *Lophiostoma*; **46** (VI, 194); **15**, 852; *Lophiosphaera* Cooke in **14** (XVII, 25); Massee **14** (XVII, 57). On grasses. Berlese **98** (I, 6) thought this and the next probably *L. praemorsum*.
— **sexnucleatum** (Cooke) Sacc. in *Syll.* II, 683; *Lophiostoma* Cooke in **65** (IX, 330*, 1868); **15**, 850; Bucknall **46** (V, 132); Plowr. Exs. II, No. 50; *Lophiosphaera* Cooke in **14** (XVII, 26); Massee **14** (XVII, 57). On *Urtica*. Grove **60** (1886, 35*) thought this the same as *L. angustilabrum*.
— **vagabundum** Sacc. Bucknall **46** (V, 48* and 52, 1886) as *Lophiostoma*. On *Spiraea* near Bristol.
Schizostoma montellicum Sacc. Bucknall **46** (V, 127* and 132, 1887) as *Lophiostoma* [comb.n.?]. Near Bristol, host not given.

DOTHIDEALES

DOTHIDEACEAE

The names are as cited by Theissen and Sydow **102** (1915, 147–746).

Apiospora Montagnei Sacc. Theiss. & Syd. p. 419; Bucknall **46** (V, 128* and 132, 1877) as *Sphaeria* [comb.n.?]. On "Pampas grass", near Bristol.
"**Dothidea Genistae** Wint." Massee **37** (1911, 376). On *Genista*, Kew. Massee probably meant "*D. tetraspora*".
— **tetraspora** Berk. & Br. in **19**, No. 899*, 1859; Sacc. II, 640; Cooke **15**, 807; Massee **14** (XV, 36). On stems of *Daphne* and *Ulex*. See *Anthostoma Plowrightii*.
Dothidella Agrostidis (Fuckel) Sacc. Grove **27** (1922, 176). On *Poa* and *Agrostis*. Theiss. & Syd. p. 418 exclude this from the Dothideales.

Dothidella Pelvetiae Sutherland in **28** (v, 154, 1915); Sacc. xxiv, 545. On *Pelvetia*, Orkney.

[— **ribesia** (Pers. ex Fr.) Theiss. & Syd., p. 309; Hooker **92**, 5, 1821 as *Sphaeria*; *Stromatosphaeria* Greville in **51**, 357, 1824; Berk. **20**, 285, 1836 as *Dothidea*; Cooke **15**, 807; Massee **14** (xv, 36); Berk. Exs. 91; Vize Exs. 278; Cooke Exs. ii, No. 488; Plowr. Exs. i, No. 28; **23** (xiv, 680*) as *Plowrightia*; Ismé Hoggan **28** (xii, 27*, parasitism); **65** (xxx, 340); **79** (i, 30; v, 30; xi, 51 and 53); **112**, 169*. On *Ribes*. The accepted name is *Plowrightia ribesia*, q.v.]

— **Trifolii** Bayliss Elliott & Stansfield in **28** (ix, 227*, 1924); **112**, 170; **79** (iv, 28; v, 28; xi, 44); sterile and pycnidial specimens have been listed as follows: Berk. **20**, 257, 1836 as *Dothidea*; Cooke **15**, 805; **89**, 227*; Baxter Exs. 84; Vize Exs. 390; Plowr. Exs. ii, No. 17; Massee **14** (xv, 36) as *Phyllachora*; Theiss. & Syd. p. 576. On *Trifolium*. See **100** (xxvii, 71) under *Cymadothea*.

Endodothella Junci (Fr.) Theiss. & Syd. p. 586; Berk. **20**, 256, 1836 as *Sphaeria*; Currey **45** (xxii, 284*); Cooke **15**, 806 as *Dothidea*; **46** (ii, 349); Berk. Exs. 35; Vize Exs. 487; Plowr. Exs. i, No. 26; Cooke Exs. ii, No. 243; Massee **46** (xv, 36) as *Phyllachora*. On *Juncus*.

Euryachora betulina (Fr.) Schroet. Theiss. & Syd. p. 365; **35** (1934, 349); Greville **39**, t. 200, 1826 as *Dothidea*; Cooke **15**, 805; B. & Br. **19**, No. 1493, 1875 and No. 1729, 1878; Massee **14** (xv, 36) as *Dothidella*; **89**, 215*. On leaves of *Betula*.

Homostegia Pelvetii (Hepp) Lindsay in **53** (xxiv, 450, 1867); Cooke **14** (xiii, 66); Sacc. ix, 1049; Theiss. & Syd. p. 607. On *Sticta*. Keissler **119**, 77 refers this to *Conida fuscopurpurea* Vouaux, a Discomycete.

— **Piggotii** (Berk. & Br.) Karst. in *Myc. Fenn.* ii, 222, 1873; Theiss. & Syd. p. 603; Sacc. ii, 649; Massee **14** (xv, 36); *Dothidea* B. & Br. in **19**, No. 660, 1852; Cooke **15**, 809; Plowr. Exs. ii, No. 19. On *Parmelia*. See Keissler **119**, 300.— *Homostegia* Fuckel is based on this species, which Fuckel called *H. adusta*.

Phyllachora Angelicae (Fr.) Fuckel. Massee **14** (xv, 36); Phill. & Plowr. **14** (iii, 126, 1875) as *Dothidea*. On *Angelica*. See *Stigmatea Ostruthii* below.

— **Caricis** (Fr.) Sacc. Massee **14** (xv, 36); B. & Br. **19**, No. 604, 1851 as *Sphaeria*; Cooke **15**, 806 as *Dothidea*; Bucknall **46** (iv, 59, spores "apparently becoming 3 or 4 septate"). On *Carex*.

— **graminis** (Pers. ex Fr.) Fuckel. Massee **14** (xv, 36); **112**, 170; Berk. **20**, 257, 1836 as *Sphaeria*; Currey **45** (xxii, 285*); Cooke **15**, 806 as *Dothidea*; Cooke Exs. 678 and ii, Nos. 185, 580; Plowr. Exs. i, No. 27; Vize Exs. 93. On grasses. This name has been used in Britain in a collective sense; Theiss. & Syd. p. 436 give a revised and restricted diagnosis.

— **Heraclei** (Fr.) Fuckel. Massee **14** (xv, 36); Berk. **20**, 287, 1836 as *Dothidea*; Cooke **15**, 805; Vize Exs. 486. On *Heracleum*. Von Höhnel has transferred this species to *Carlia*; see Raabe **105** (1938, 50).

[— **Pastinacae** Rostr. Recorded **37** (1918, 17) as conidial.]

Plowrightia ribesia (Pers. ex Fr.) Sacc. References are listed under *Dothidella*.

— **virgultorum** (Fr.) Sacc. Massee **37** (1914, 322*); **5** (2nd Ed. p. 2 Appendix); **23** (xxi, 1165). On *Betula*. Theiss. & Syd. **102** (xiv, 451, 1916) make this the type of a new genus *Anisogramma* of the Melogrammataceae; see also **102** (xv, 275; xxxii, 441).

Rhopographus filicinus (Fr.) Fuckel. Theiss. & Syd. p. 425; Massee **14** (xv, 37); Grove **27** (1922, 144); Euphemia Barnett **28** (xvi, 85); Berk. **20**, 255, 1836 as *Sphaeria*; Berk. Exs. 33; Cooke **15**, 808 as *Dothidea*; Cooke, *Fern book for everybody*, p. 20*, 1867; **14** (ii, 164); Cooke Exs. 244; Plowr. Exs. i, No. 30; Vize Exs. 489 as *Dothidea Pteridis*; Cooke Exs. ii, No. 496. Common on *Pteridium*. See Von Höhnel **102** (1917, 321). A. Lorrain Smith in **28** (iii, 115, 1909) named f. *macrospora* of *R. Pteridis*; Rilstone **27** (1935, 103).

Scirrhia rimosa (Alb. & Schw. ex Fr.) Fuckel. Theiss. & Syd. p. 414; Massee **14** (xv, 37); Phill. & Plowr. **14** (viii, 106, 1880) as *Dothidea*; Massee **14** (xv, 37) as *S. depauperata*. On *Phragmites*.

Scirrhiachora Groveana (Sacc.) Theiss. & Syd. gen.nov. in **102** (XIII, 626); *Scirrhia* Sacc. in *Atti R. Istit. Ven.* 6 ser. III, 23*, 1885; *Syll.* IX, 1040; Grove **27** (XXIII, 133, 1885). On *Typha* near Birmingham.

Septomazzantia epitypha (Cooke) Theiss. & Syd. gen.nov. in **102** (XIII, 193); *Dothidea* Cooke in **14** (VII, 79, 1879); *Phyllachora* Sacc. in *Syll.* II, 605; **54** (III, 753). On *Typha*, Norfolk.

Systremma Frangulae (Fuckel) Theiss. & Syd., p. 335; Phill. & Plowr. **14** (VIII, 106, 1880) as *Dothidea*; **14** (XV, 36). On *Rhamnus*, Shrewsbury.

— **natans** (Tode ex Fr.) Theiss. & Syd. p. 330; Cooke & Plowr. **14** (VII, 79, 1879) as *Dothidea Sambuci* (Pers.) Fr.; **13**, 365; **14** (XV, 36). On *Sambucus*.

— **Ulmi** (Duval ex Fr.) Theiss. & Syd. p. 334; Greville **39**, t. 200, 1826 as *Dothidea*; Berk. **20**, 286; Tul **114** (II, 71); Cooke **15**, 804; Berk. Exs. 192; Cooke Exs. 184 and II, No. 579; Plowr. Exs. I, No. 25; Vize Exs. 277; Massee **14** (XV, 35) as *Phyllachora*; *Sphaeria ulmaria* Sowerby in **42**, t. 374, 1802. Common on leaves of *Ulmus*.

MYRIANGIACEAE

Bagnisiella Rhamni (Mont. ex Cooke) Berl. & Vogl. in Sacc. *Addit. I–IV*, 233; *Dothidea* Mont. ex Cooke in **14** (XIII, 66, 1885); Massee **14** (XV, 36). On *Rhamnus*. *Bagnisiella* is considered to belong to the Myriangiaceae; Theiss. & Syd. **102** (1915, 295) did not see the type of *B. Rhamni* but from the description thought it belonged to the Dothideaceae, where they placed it, with doubt, in their genus *Bagnisiopsis*.

Dothiora Aucupariae (A. L. Smith) Theiss & Syd. in **102** (XIII, 659, 1915); *Curreyella* A. L. Smith in **28** (III, 43, 1908); Sacc. XXII, 441. On *Pyrus Aucuparia*, Scotland.

[— **pyrenophora** (Fr.) Fr. Cooke **15**, 429; Berk. **19**, No. 199, 1841 as *Dothidea*; Berk. Exs. 282. On *Pyrus*. Berkeley interpreted the *Macrophoma* state of a *Diplodia* as ascosporous. Berkeley's fungus appears in *Syll.* III, 380 as "*Botryodiplodia pyrenophora* (Berk.) Sacc."]

[— **sphaeroides** (Pers. ex Fr.) Fr. Cooke **15**, 429; Berk. **19**, No. 198, 1841 as *Dothidea*; **46** (III, 65); Vize Exs. 106. On *Fraxinus*. As with the preceding entry, Berkeley's record was based on a mistake. See Grove **1** (II, 69) as *Botryodiplodia Fraxini* Sacc.]

[**Elsinoe ampelina** Shear. On *Vitis*. British records, so far as noted, are to the conidial stage *Sphaceloma ampelinum* de Bary (teste Grove = *Gloeosporium ampelophagum* (Pass.) Sacc.). The references to *Guignardia Bidwellii* in Sphaeriaceae-Hyalosporae probably refer to the same conidial state.]

Elsinoe veneta (Burkh.) Jenkins. Beaumont **79** (XI, 37 and 51, 1934); **93**, 159; **1** (II, 225); Harris **77** (1925, 81, 1927) as *Plectodiscella*, ascus and conidial stages; **77** (1928–30, II, 134; 1932, 86; 1933, 145); **71** (XL, 52); **104** (IX, 73); **112**, 121*. On *Rubus*.

Myriangium Duriaei Mont. & Berk. in **21** (1845, 73). Petch **28** (VII, 33, 1921; X, 66; XVII, 174) gives numerous British records on insects, especially on *Chionaspis* on *Fraxinus*.

MICROTHYRIALES

POLYSTOMELLACEAE

[**Diplocarpon Rosae** Wolf. Conidia only known in Britain; **23** (XXIX, 1153; XXXIX, 400); **79** (V, 31; XI, 58); **56** (1931, 18; 1932, 58); **93**, 199; **112**, 113.]

Stigmatea Aegopodii (Pers. ex Fr.) Oudem. Massee **14** (XV, 38, 1886); Cooke **15**, 805, 1871 as *Dothidea Podagrariae*; Vize Exs. 94; Plowr. Exs. II, No. 16. On *Aegopodium Podagraria*. Von Höhnel has transferred this to *Carlia*. See also **102** (1910, 46; 1915, 575).

Stigmatea conferta (Fr.) Fr. Cooke **15**, 928; **13**, 367; Berk. **19**, No. 177 as *Sphaeria*. On *Vaccinium*. A doubtful species.
— **Geranii** (Fr.) Fr. Cooke **15**, 928; Massee **14** (xv, 38); Cooke Exs. 465 and II, No. 586; Vize Exs. 200; Greville **51**, 368, 1824 as *Xyloma*; Berk. **20**, 287 as *Dothidea*. On *Geranium*.
— **Nicholsoni** Cooke in **14** (xi, 16, 1882); Sacc. II, xliii and ix, 660; **14** (xv, 38). On *Laurus*, Ireland.
— **Ostruthii** (Fr.) Oudem. Massee **14** (xv, 38); Berk. **19**, No. 102, 1838 as *Sphaeria*; Cooke **27** (iv, 251); Berk. Exs. 330; Cooke **15**, 922 as *Sphaerella* [comb.n.?]; Cooke Exs. 171 and II, No. 584; Plowr. Exs. III, No. 93; Vize Exs. 95. On *Angelica*. This name and *Phyllachora Angelicae* perhaps refer to the same doubtful species.
— **Pelvetiae** Sutherland in **32** (xiv, 37*, 1915); Sacc. xxiv, 395. On *Pelvetia*, Scotland.
— **Polygonorum** (Fr.) Fr. Cooke **15**, 929, 1871; **7**, 221. On *Polygonum*.
— **Ranunculi** Fr. Cooke **15**, 928, 1871; **46** (II, 350); **14** (xv, 38); Plowr. Exs. II, No. 97; Berk. **20**, 287 as *Dothidea*. On *Ranunculus*.
— **Robertiani** (Fr.) Fr. Cooke **15**, 928*; **14** (xv, 38); Vize Exs. 198; Cooke Exs. 283 and II, No. 585; Plowr. Exs. I, No. 98; Greville **39**, t. 146, 1825 as *Dothidea*; Berk. **20**, 288; Baxter Exs. 78; *Cryptosphaeria nitida* Greville in **51**, 363, 1824. On *Geranium Robertianum*.

MICROTHYRIACEAE

Asterina Veronicae (Lib.) Cooke in **14** (v, 122, 1877); **13**, 356; **70** (xxi, 397); *Capnodium sphaericum* Cooke in **15**, 934, 1871; Bucknall **46** (II, 218); **7**, 241. On leaves of *Veronica*. This is *Dimerosporium Veronicae* (Lib.) Arnaud, = *D. abjectum* (Lib.) Fuckel, the type species of *Dimerosporium*.
Microthyrium gramineum Bomm. Rouss. & Sacc. var. **major** Grove in **27** (lxxi, 286, 1933). On *Ammophila*, Kent.
— **ilicinum** de Not. Grove **27** (lxviii, 134, 1930). On leaves of *Quercus*, Worcs. (Sacc. II, 660 lists this species as *Myiocopron*.)
— **microscopicum** Desm. Cooke **15**, 927*, 1871; **13**, 356; Trail **40** (1889, 63); Cooke Exs. 282 and II, No. 297; Plowr. Exs. III, No. 88. "On leaves of evergreens such as box, oak, etc."
— **Rhodendri** Grove in **27** (lxxi, 287, 1933). On *Rhododendron*, Wales.
Myiocopron Heleocharidis Grove in **27** (lxviii, 133, 1930). On *Eleocharis*, Staffs.

MICROPELTACEAE

Clypeolum juniperinum Grove in **27** (lxviii, 134, 1930). On *Juniperus*, Scotland.

HYSTERIALES

A few references are given below to Darker, G. D. ("The Hypodermataceae of Conifers," *Contr. Arnold Arboretum*, 1932), to Tehon, L. R. ("A monographic rearrangement of Lophodermium," *Illinois Biol. Monog.* xiii, No. 4, 1935) and to Duby (*Mémoire sur la Tribu des Hysterinées*. Geneva, 1861). A few notes on British Hysteriaceae will be found also in **28** (viii, 176) and **100** (xxiv, 304).

Acrospermum compressum Tode ex Fr. Greville **39**, t. 182, 1826; Berk. **20**, 221; Cooke **15**, 430*; **73** (III, 70*); **14** (xv, 9); **46** (III, 138); Berk. Exs. 270; Vize Exs. 107, 345; Purton **55**, t. 19 as *Clavaria*; *C. herbarum* Sowerby in **42**, t. 253, 1800. On dead herbs. *Acrospermum* has been placed in various groups of fungi.
— **graminum** Lib. Berk. **19**, No. 164, 1841; Cooke **15**, 430; **14** (xv, 9); **7**, 369; Cooke Exs. II, No. 480. On dead grasses.

Actidium hysterioides Fr. B. & Br. **19,** No. 1092, 1865; Currey **45** (xxiv, 155); Cooke **15,** 766; **46** (v, 131); Massee **8** (iv, 30*). On chips, etc.

Aulographum maculare Berk. & Br. in **19,** No. 968*, 1861; Sacc. ii, 730; Cooke **15,** 765*; Massee **8** (iv, 32) found no fruit on the type specimen. On old herbs.

— **vagum** Desm. Cooke **15,** 765, 1871; **14** (ii, 165); Massee **8** (iv, 31*); **7,** 242; Cooke Exs. 695 and ii, No. 296. On dry leaves of *Hedera,* etc.

Dichaena faginea (Pers. ex Fr.) Fr. Massee **8** (iv, 45); **7,** 244; Cooke Exs. ii, No. 675; Cooke **15,** 932, 1871 as *D. rugosa*; **14** (iii, 45); Cooke Exs. ii, No. 464. On *Fagus*. Var. *corylea* Fr. and var. *capreae* Rehm are recorded by Massee, **8**.

— **quercina** (Pers. ex Fr.) Fr. Massee **8** (iv, 43*, 1895); **5,** 250; **7,** 224; Cooke **15,** 932, 1871 as *D. rugosa*; Cooke Exs. 697 and ii, No. 464. On *Quercus*.

— **strobilina** (Fr.) Fr. Cooke **15,** 932, 1871; Massee **8** (iv, 44); **7,** 244; Plowr. Exs. i, No. 100; Hooker **92,** 8, 1821 as *Sphaeria*; Berk. **20,** 271. On "fir cones".

Farlowiella Carmichaeliana (Berk.) Sacc. in *Syll.* ix, 1101; *Hysterium* Berk. in **20,** 294, 1836; **18,** 380; Cooke **15,** 760; **14** (xvii, 58); "*H. varium*" in **39,** t. 233, 1826. On smooth bark of *Quercus*, Appin.

— **repanda** (Bloxam ex Duby) Sacc. gen.nov. in *Syll.* ix, 1100; *Hysterium* Bloxam ex Duby in *Mém. Tribu Hyst.* p. 27*, 1861; B. & Br. **19,** No. 1181*, 1866; Cooke **15,** 758; Bucknall **46** (v, 50); *Farlowia* Sacc. in *Syll.* ii, 727; Massee **8** (iv, 24*). On wood.

Gloniopsis biformis (Fr.) Sacc. Listed by Rilstone **27** (1935, 104) as *Hysterographium*. On *Rhododendron*, Cornwall.

— **curvata** (Fr.?) Sacc. Massee **8** (iv, 42*); **7,** 244; **71** (xl, 51); B. & Br. **19,** No. 587, 1851 as *Hysterium*; **18,** 380; Cooke **15,** 759; Bucknall **46** (v, 131); Cooke Exs. 456 and ii, No. 199; Vize Exs. 267, 483. On *Rubus*, etc.

— **decipiens** de Not. A. Lorrain Smith **28** (iii, 282, 1911). On *Quercus*, Wales.

— **Muelleri** (Duby) Sacc. Rea & Hawley **71** (xxxi, Part 13, p. 15 and 26, 1912). Clare Island, host not given.

— **Vaccinii** (Carmichael ex Berk.) Boughey in **28** (xxii, 239*, 1939); *Hysterium* Carm. ex Berk. in **20,** 295, 1836). On *Vaccinium*, Appin.

Glonium amplum (Berk. & Br.) Duby in *Mém. Tribu Hyst.* p. 37, 1861; Sacc. ii, 737; Massee **8** (iv, 33); *Aulographum* B. & Br. in **19,** No. 782, 1854; *Hysterium* Cooke in **15,** 760. On *Rubus*.

— **lineare** (Fr.) de Not. Massee **8** (iv, 33); **7,** 242; Cooke Exs. ii, No. 457; Greville **39,** t. 167, 1825 as *Hysterium*; Berk. **20,** 294; Cooke **15,** 760. On wood. Petrak **102** (1923, 227) made this the type of *Psiloglonium*.

— **varium** (Fr.) Sacc. B. & Br. **19,** No. 1180*, 1866 as *Hysterium*; Cooke **15,** 758. On *Taxus*. Rehm (Rabenh. *Krypt.-Fl.* iii, 235) transferred this to *Tryblidiella*, a Discomycete.

Hypoderma brachysporum (Rostr.) Tubeuf. M. Wilson **28** (vii, 81, 1921). On leaves of *Pinus*, Scotland. Darker, p. 25, places this as a synonym of *H. Desmazierii*.

— **commune** (Fr.) Duby. Massee **8** (iv, 34); **7,** 242; B. & Br. **19,** No. 588, 1851 as *Hysterium*; **18,** 380; Cooke **15,** 761; Cooke Exs. 391. On herbaceous stems.

— **conigenum** (Pers. ex Fr.) Sacc.? Massee **8** (iv, 35); **7,** 243; Berk. **20,** 294, 1836 as *Hysterium*; **18,** 380; Cooke **15,** 762; **13,** 347. On "fir cones". Most or all of these records are doubtful: see Grove **1** (ii, 146) and von Höhnel, *Mitt. Bot. Inst. Tech. Hochs. Wien*, vi, 118.

— **Desmazierii** Duby. A. Lorrain Smith & Rea **28** (ii, 128, 1906); **28** (vi, 152); Grove **27** (lvi, 286); Darker p. 25. On needles of *Pinus*.

— **Hederae** ([Martius]) de Not. Massee **8** (iv, 33, 1895); Greville **39,** t. 129, 1825 as *Hysterium*; Berk. **20,** 294; Cooke **15,** 761; Bucknall **46** (ii, 217); Vize Exs. 381. On *Hedera*.

— **ilicinum** de Not. *Hysterium* Cooke in **15,** 760; Massee **8** (iv, 40) as var. of *Lophodermium maculare*; **7,** 243. On leaves of *Quercus*.

Hypoderma Laminariae Sutherland in **28** (v, 153, May 1915) and **32** (xiv, 190*, Aug. 1915); Sacc. xxiv, 1123. On *Laminaria*, Orkney.

— **scirpinum** (DC. ex Fr.) Duby? A. Lorrain Smith & Ramsbottom **28** (v, 424, 1917). On *Scirpus*, Scotland.

— **strobicola** Tubeuf. M. Wilson **64** (xxxiv, 223, 1920). On needles of *Pinus*, Scotland. Lind, *Danish Fungi*, and Darker, p. 25, consider this a synonym of *H. Desmazierii*.

— **virgultorum** DC. ex Sacc.? Massee **8** (iv, 35); **7**, 243; Greville **39**, t. 24, 1823 as *Hysterium*; Cooke **15**, 461; Cooke Exs. ii, No. 460 as var. *Rubi*; Berk. **20**, 295, 1836 as *Hysterium Rubi* Pers. On *Rubus*.

Hypodermella sulcigena (Rostrup) Tubeuf. Laing **64** (xliii, 52, 1929); M. Wilson **28** (vii, 79, 1921) as *Hypoderma pinicola* Brunch.; **64** (xxxiv, 222); Darker p. 56. On needles of *Pinus*, Scotland.

Hysterium angustatum (Alb. & Schw. ex Fr.) Chev. Hooker **92**, 8, 1821; Cooke **15**, 758; Bucknall **46** (iii, 68); Massee **8** (iv, 27); Cooke Exs. 579 and ii, No. 458. On wood. Fries (and Duby) placed this as a variety of *H. pulicare*. Fries was uncertain about *H. angustatum* Pers.

— **pulicare** Pers. ex Fr. Hooker **92**, 8, 1821; Greville **39**, t. 167, 1825; Berk. **20**, 293; Cooke **15**, 757; Massee **8** (iv, 26*); Cooke Exs. ii, No. 459. On wood. See **28** (viii, 176) for the early history of this name.

Hysterographium elongatum (Wahlenb. ex Fr.) Corda. Massee **8** (iv, 29); **7**, 245; Berk. **20**, 293, 1836 as *Hysterium*; Cooke **15**, 759; Bucknall **46** (ii, 216). On *Salix*, etc.

— **Fraxini** (Pers. ex Fr.) de Not. Massee **8** (iv, 29*); **7**, 245; Hooker **92**, 8, 1821 as *Hysterium*; Greville **39**, t. 72, 1824; Berk. **20**, 294; Cooke **15**, 789*; Baxter Exs. 33; Cooke Exs. 398 and ii, No. 198; Vize Exs. 258; *Sphaeria sulcata* Bolton in **111**, t. 124, 1789; Sowerby **42**, t. 315, 1801. On *Fraxinus*.

— **Rousselii** (de Not) Sacc. Massee **8** (iv, 28); Cooke **15**, 758, 1871 as *Hysterium*. On wood.

Lophium elatum Greville in **39**, t. 177, 1825; Sacc. ii, 800; Berk. **20**, 281; Cooke **15**, 766; **13**, 349; Massee **8** (iv, 37). On wood and bark.

— **mytilinum** (Pers. ex Fr.) Fr. Greville **39**, t. 177, 1825; Berk. **20**, 280; Cooke **15**, 766*; **46** (iii, 268); Massee **8** (iv, 36). On conifers.

Lophodermium arundinaceum (Schrad. ex Fr.) Chev. Darker p. 42; Massee **8** (iv, 38); **7**, 243; Berk. **20**, 295, 1856 as *Hysterium*; Cooke **15**, 763; Berk. Exs. 94; Cooke Exs. 294, 459. On "reeds".

— **caricinum** (Rob. in Desm.) Duby. Phill. & Plowr. **14** (xiii, 79, 1885). On *Carex*. Tehon p. 62 transfers it to his new genus *Dermascia*.

— **cladophilum** (Lév.) Rehm. Massee **8** (iv, 39); Grove **27** (1922, 86); Cooke **15**, 764 as *Sporomega*. On *Vaccinium*. See Boughey **28** (xxii, 239) for discussion of this species and *Hysterium Vaccinii* Carm. in Berk., and Grove **1** (ii, 175).

— **culmigenum** (Fr.) Karst. Berk. **20**, 296, 1836 as *Hysterium*; **18**, 380; Cooke **14** (iv, 68) as *H. arundinaceum* var. *culmigenum*; Cooke Exs. 459 and ii, No. 300. On grasses. Tehon p. 92 includes it as *Lophodermina culmigena* (Fr.) von Höhnel.

— **gramineum** (Fr.) Chev. Tehon p. 50; B. & Br. **19**, No. 1494, 1875 as *Hysterium arundinaceum* var. *gramineum*; Cooke **14** (iv, 68, 1875); **13**, 348. On grasses.

— **hysterioides** ([Pers.]) Sacc. Trail **40** (1889, 63); Massee **8** (iv, 40); **7**, 243; Berk. **20**, 296, 1836, p.p. as *Hysterium xylomoides*; Cooke **15**, 762; Berk. Exs. 196; ?Cooke Exs. 460. On leaves of *Crataegus*, *Berberis*, etc. Tehon p. 75 includes it as *Lophodermellina hysterioides* (Pers.) von Höhnel.

— **juniperinum** (Fr.) de Not. Massee **8** (iv, 41); Darker p. 66; **15**, 763 as *Hysterium*; Vize Exs. 383; Cooke Exs. 395; *Hysterium Juniperi* Greville in **39**, t. 26, 1823; Berk. **20**, 295 as *H. pinastri* var. *juniperinum*. On leaves of *Juniperus*. Tehon p. 96 transfers it to *Lophodermina*.

— **lineatum** A. L. Smith and Ramsb. in **28** (vi, 365, 1920); **48** (xxx, 37). On leaves of *Pinus*, Ireland. Darker p. 27 and Tehon p. 114 consider it to be *Hypoderma Desmazierii*.

Lophodermium macrosporum (Hartig) Rehm. Watson **64** (xxxi, 72, 1917); Darker p. 84; *Lophodermellina* Tehon in Monog. p. 76; Campbell & Vines **32** (xxxvii, 358*, 1938). On *Picea Abies*, Scotland.

— **maculare** (Fr.) de Not. Massee **8** (iv, 40); Greville **39**, t. 129, 1825 as *Hysterium*; Cooke **15**, 762; Berk. **20**, 296 as *H. foliicola* var. *maculare*; Berk. Exs. 95. On leaves of *Vaccinium*. Tehon p. 99 transfers it to *Lophodermina*.

— **melaleucum** (Fr.) de Not. Massee **8** (iv, 40); Grove **27** (1922, 86); Greville **39**, t. 88, 1824 as *Hysterium*; Berk. **20**, 295; Cooke **15**, 762. On leaves of *Vaccinium*. Von Höhnel transferred this to *Lophodermina*; see Tehon p. 100. Massee (**8**) records also a var. *pulchella*.

— **Neesii** Duby. Bucknall **46** (iii, 267*, 1882) as *Hysterium* [comb.n.?]. On *Ilex* near Bristol.

— **Oxycocci** (Fr.) Karst. A. Lorrain Smith & Rea **14** (iii, 39, 1908). On *Vaccinium*, Scotland.

— **pinastri** (Schrad. ex Fr.) Chev. Massee **8** (iv, 41); **5**B, 139*; **5**, 249*, Darker p. 69; **56** (1919, 313); **64** (xvii, 279 and 343; xlix, 159); **65** (xxx, 348); **33** (xlix, 699*, life history); **89**, 227*; **112**, 155; Hooker **92**, 8, 1821 as *Hysterium*; Greville **39**, t. 60, 1823; Berk. **20**, 295; Cooke **15**, 763; M. Ward **56** (xiv, 126, 1892); **23** (vii, 6); Vize Exs. 382; Cooke Exs. 396 and ii, No. 662. On leaves of *Pinus*. Von Höhnel has transferred this to *Lophodermellina*; see Tehon p. 78.

— **Rhododendri** Ces. Roe **35** (1913, 218); Cooke **14** (iii, 66, 1874) as *Hysterium sphaerioides* var. *Rhododendri*. On leaves of *Rhododendron*. Tehon p. 107 is uncertain about this name.

— **typhinum** (Fr.) Lambotte. Massee **8** (iv, 38); Tehon p. 59; B. & Br. **19**, No. 589, 1851 as *Hysterium*; Cooke **15**, 764. On *Typha*.

Mytilidion decipiens (Karst.) Sacc. Bucknall **46** (iv, 200, 1885) as *Lophium*. On *Pinus* near Bristol.

— **gemmigenum** Fuckel. Massee **8** (iv, 25, 1895); **7**, 244; *Lophium fusisporum* Cooke in **14** (iv, 114, 1876); **46** (iv, 59); Cooke Exs. 580 and ii, No. 200; *Mytilidion fusisporum* Sacc. in *Syll.* ii, 764; Cooke Exs. 580 and ii, No. 200 as *Lophium mytilinum*. On coniferous wood.

— **laeviusculum** (Karst.) Sacc. Massee **8** (iv, 25*, 1895). On pine wood. Phill. & Plowr. record *Lophium laeviusculum* on "fir leaves", Scotland, in **14** (viii, 103, 1880), apparently "forma *minor*....On pine leaves" of Massee.

Ostreion americanum Duby in Sacc. Recorded by Cooke **14** (xvi, 47, 1887); Massee **8** (iv, 28*); **7**, 245. On *Pinus*, Yorks. We found no specimen in Herb. Kew.

APPENDIX I

Pyrenomycetes recorded from Forays

The British Mycological Society has published (previous to 1939) lists of fungi reported on the forty autumn forays from 1897 to 1936 inclusive, and on twenty-four spring forays, 1909–15 and 1920–36. These lists include a total of 1880 records of 301 species and 4 varieties of Pyrenomycetes, listed under 322 specific names.

As no comprehensive work covering the distribution of British Pyrenomycetes has previously appeared, these foray lists furnish the only available information on the occurrence in Britain of the more abundant and conspicuous species. The records are set out in alphabetical order below.

In this list the names are given as cited in the foray records, but the name accepted in the List of Species, if differing, is indicated. The date of the earliest foray record is given first. This is followed either by the dates of later records (if few) or by their number (if many). Thus "*Valsa ambiens* '08+3; S '12, '23" means that the species was first reported in the autumn foray of 1908, then in three subsequent

autumn forays, and in the spring forays of 1912 and 1923 (spring forays are marked "S"; spring and autumn foray records are separated by a semicolon).

Antennaria ericophila '09
Anthostoma melanotes '02, '30, *turgidum* S '23; '28, '29, '30
Anthostomella appendiculosa '20, '36
Apiocrea chrysosperma '35
Apiosporium [*Antennaria*] *pinophilum* '22
Arachniotus [*Gymnoascus*] *ruber* S '30
Asterina Veronicae '08
Aulographum vagum S '24

Berlesiella nigerrima '30; S '36
Bertia moriformis S '09+8; '13+8
Bombardia fasciculata '30
Botryosphaeria Dothidea '16, '30; S '34

Calonectria Plowrightiana [*C. ochraceo-pallida*] S '28
Calosphaeria dryina S '30, *pusilla* [*Wahlen-bergii*] '27; S '29
Calospora alnicola S '15 (and S '30 as *Massarina*), *platanoides* S '23, '30; '27
Calyculosphaeria tristis S '33
Capnodium salicinum S '11, '32; '11, '12
Ceratostomella cirrhosa '02, '15, '20, [*Ophiostoma*] *pilifera* S '24, *rostrata* S '27, ?*vestita* S '33
Chaetomium bostrychodes '08, *elatum* '05+6; S '10+4
Chaetosphaeria phaeostroma '01+7; S '10, '11
Claviceps purpurea '12+10 (and as *microcephala* '05+14)
Cordyceps capitata '05+4, *Forquignoni* '24; S '32 (and S '13 as *myrmecophila*), *gracilis* S '32, *militaris* '05+18; S '11, *ophioglossoides* '00+13
Cryptosphaeria eunomia S '11+7; '11+5
Cryptospora Betulae '08, *corylina* '24; S '29, *suffusa* '08; S '15, '29
Cryptosporella compta '28
Ctenomyces serratus '26, '34; S '32, '33 (first '18 as *Arthroderma*)
Cucurbitaria Berberidis '08, '12, *Laburni* '12, '27, *Spartii* '12
Curreyella [*Dothiora*] *Aucupariae* '08

Daldinia concentrica '01+14; S '09+11, *vernicosa* '27
Delitschia minuta '20
Diaporthe Arctii S '28, *Aucubae* '25, [*Cryptodiaporthe*] *castanea* '28, *contro-versa* '22, '29, '30, *crustosa* '20, *decedens* '29, *decorticans* '20, *eres* '28, '34, '35; S '33, *fibrosa* '34, *inaequalis* S '30, *insignis* '18, *leiphaemia* '21+7; S '25+5, *longirostris* [*Cryptodiaporthe hystrix*] S '15, *Niesslii* S '28; '29, '30, *nucleata* '08; S '30, *occulta* S '23, *patria* [error for *D. impulsa*] S '30, *pulla* S '11; '11, '22, '28, '30, *revellens* '22, [*Gnomonia*] *rostellata* '15, '24, [*Cryptodiaporthe*] *salicella* S '24, *scobina* '30, *sorbicola* '22, *spina* [*Cryptodiaporthe salicella*] S '27, *strumella* '22, *taleola* '18+3; S '29, *Wibbei* [*Cryptodia-porthe Aubertii*] '12
Diatrype bullata '22, S '28, *disciformis* '07+20; S '09+12, *stigma* '02+27; S '09+21
Diatrypella favacea S '11, '29, '30; '11+3, *nigro-annulata* S '11, '23, '35; '11, *quercina* '07+21; S '09+18, *Tocci-aeana* S '36, *verruciformis* '21+7; S '29+3
Dichaena faginea S '25+3; '28, var. *corylea* '22, *quercina* '05+6; S '09+7
Didymella applanata '32, *Salicis* S '25
Didymosphaeria fenestrans S '35
Ditopella ditopa S '30 (and as *fusispora* S '29)
Dothidea Sambuci [*Systremma natans*] '12, *tetraspora* '08; S '30
Dothidella [*Euryachora*] *betulina* S '09+3; '11+6, [*Systremma*] *Ulmi* S '12; '15+6

Endodothella Junci '08+11; S '10+14. Earlier records as *Phyllachora*
Epichloe typhina '01+5; S '09+9
Erysiphe Cichoracearum '08+16; S '15+3 (first '01 as *E. Montagnei*), *Galeopsidis* '15, '21; S '27, *graminis* S '09+11; '11+9, *Polygoni* '20+12; S '21, '25, '26 (first '08 as *E. Martii* and *E. Umbelliferarum*, 7 other records of these names), "*E. communis*", 6 records
Eutypa Acharii '98+3; S '28+2, *flavo-virens* S '24, '29; '28, '29, (and as *flavovirescens* '17+3; S '25), *hydnoidea* '27; S '30, *lata* '08+11; S '09+10, *scabrosa* S '15, '30, *spinosa* '28; S '29, '33, '34
Eutypella prunastri S '30, *Sorbi* '30, *stellulata* '22+3 (and S '36 as *Valsa*)

Fenestella vestita S '23

Gibbera Vaccinii '27
Gibberella cyanogena S '26, *pulicaris* '08, '18, '34

Gloniopsis curvata S '12+4; '29, '34
Gnomonia cerastis S '25, [*veneta* S '26 (*conidial*)]
Guignardia punctoidea S '10; '10 (and as *Laestadia* S '11; '11)

Herpotrichia pinetorum '20
Hypocrea [*Podostroma*] *alutacea* '13, *citrina* '21, '26, [*Chromocrea*] *gelatinosa* '12+5, *rufa* '03+13; S '09, '10, *pulvinata* '27, '34; S '32, '36 (and as *H. fungicola*, '08, '20; S '12+4), *splendens* '98
Hypoderma conigenum '08+4, *Desmazierii* '05, *Rubi* [*virgultorum*] '20
Hypomyces aurantius '01+13; S '12+3, [*Hyphonectria*] *aureonitens* S '22, [*Byssonectria*] *lateritius* '17, *luteovirens* [*Apiocrea Tulasneana*] '22, *ochraceus* S '29, *rosellus* '05+14; S '09+9, *torminosus* [?*Byssonectria lateritia*] '05, '17, '19
Hyponectria Buxi '34 [and as *Sphaerella*, *q.v.*]
Hypospila pustula S '09+4; '11
Hypoxylon argillaceum '26, '34; S '29, *coccineum* '05+23; S '09+16, *cohaerens* S '33, *effusum* '04, *fuscum* '02+22; S '09+18, *multiforme* '06+19; S '09+14, *rubiginosum* S '12+5; '12+7 (and '28 and S '29 as *purpureum*), *rutilum* S '33, *semi-immersum* S '15+3; '22+6, *serpens* S '14+3; '21, '30, *udum* '02, '17
Hysterium angustatum S '11, '33; '11, '34, *pulicare* '22
Hysterographium Fraxini S '12, '13, '14; '20, '27, *Rousselii*, '02

Irene calostroma '36

Laestadia faginea '08, '12, *rhodorae* S '12
Lasiosphaeria hirsuta S '11, '33; '11+3. See *Leptospora* for others
Leptosphaeria acuta '07+5; S '09+19, *culmicola* S '14, *doliolum* '05, '07, '23; S '12, *Rusci* S '13, '21, '26; '28, *Typharum* '15, *vagabunda* S '11; '11, '17, '18
Leptospora ovina S '09+8; '10+11, *spermoides* '08+7, S '09+6, *strigosa* '11, '30; S '11 [all *Lasiosphaeria*]
Lophiotrema praemorsum S '30
Lophium mytilinum '20, '27
Lophodermium arundinaceum '12, *cladophilum* '08, '12, '20, *hysterioides* '36, *juniperinum* '08, '12, *pinastri* '08+7; S '12+3, *Rhododendri* '35

Massaria [*Massarina*] *eburnea* S '14, *inquinans* '08, *pupula* S '30
Melanconis Alni '12, '18, '27, *modonia* S '30, *stilbostoma* '08+17; S '11+8, *thelebola* S '15
Melanomma Aspergrenii S '11; '11, *fuscidulum* '20, '35; S '33, *pulvis-pyrius* '04+17; S '09+9. See also *Zignoella*
Melanospora parasitica '35
Melogramma spiniferum S '33
Microsphaera Alni '11, '24, '28; S '20 (and as *M. quercina* '25), *Berberidis* '12; S '34, *Euonymi* '11, '25, *Grossulariae* '08+8, *Mougeotii* '20
Mycosphaerella Ascophylli '13, *brassicicola* '16; S '26, '27, *carinthiaca* '31, *clymenia* '36, *depazeiformis* '31, '36, *Fragariae* '16+3, *hedericola* S '10+4; '10, *idaeina* '36, [*Didymellina*] *Iridis* '14, '25, *maculiformis* S '12+7; '20+2, *peregrina* '36, *Rumicis* (p.p. as *Venturia*) '08+11; S '11+5 (several p.p. as *Sphaerella*)
Myriangium Duriaei '20, '24
Mytilidion gemmigenum S '12

Naumovia abundans '31, '33
Nectria Aquifolii '98, '30, '34; S '36 (and S '99 as *N. inaurata*), *cinnabarina* '01+26; S '09+14 (and S '12 as *N. ochracea*), *coccinea* '02+15; S '09+9, *Coryli* S '30, *dacrymycella* [*Chromocrea cupularis*] '98, [*Dialonectria*] *Desmazierii* '34, *galligena* S '23+3; '35, *mammoidea* S '25, '30, '35; '35, [*Hyphonectria*] *muscivora* S '13, [*Dialonectria*] *Peziza* '06+5; S '21, '34, *punicea* '34 (and as *ditissima* '01, '10, '17; S '10, '22), *Ralfsii* '98, '35, [*Dialonectria*] *sanguinea* S '09, '25, '34; '14, '22, '30 (and as *N. episphaeria* S '09+14; '09+11), *sinopica* '28, '30, '35; S '35, [*Dialonectria*] *Veuillotiana* S '35
Niesslia exilis S '12
Nummularia Bulliardi '98, *lutea* '35

Ophiobolus acuminatus '11; S '11, '12, *Bardanae* S '35, *porphyrogonus* [*rubellus*] S '12+3; '14+5

Peroneutypa heteracantha S '28; '28, '29, '34
Philocopra collapsa S '30, [*Sordaria*] *curvicolla* S '30
Phyllachora Angelicae '12, '15, *graminis* '07+20; S '11+9, *Heraclei* '12, *Podagrariae* [*Stigmatea Aegopodii*] '08, '12, '27, [*Dothidella*] *Trifolii* '36

Phyllactinia corylea '24+6; S '26, '27 ('11+5 as *P. suffulta*)
Pleospora herbarum '11+5; S '11+4
Plowrightia ribesia '22; S '32
Podosphaera leucotricha '16, '20, '26; S '26, '27, '30, *Oxyacanthae* '08+15; S '15+4 (first as *P. myrtillina*), var. *tridactyla* '11, '12
Podospora coprophila '13, '20; S '21, *decipiens* '04, '08, *minuta* '05+3; S '30 [all cited above as *Sordaria*]
Poronia punctata '99
Pseudovalsa lanciformis '15+4; S '29, '30, '31

Quaternaria dissepta '28+3; S '35, *quaternata* '28, '35; S '30 (and as *Q. Persoonii* '99+3; S '09, '10, '36)

Rhopographus filicinus S '28+2; '28+4 (as *R. Pteridis* '05+13; S '09+7)
Rosellinia aquila '07+5; S '11+8, *Clavariae* [*Helminthosphaeria Clavariarum*] '02, '17, *ligniaria* S '30, *mammiformis* S '12; '20, '30, "*mammoidea*" '26, *pulveracea* S '12; '18, *velutina* '22

Scirrhia rimosa S '35
Sillia ferruginea '08+3
Sordaria caudata '27, *discospora* var. *major* [*Hypocopra scatigena*] '20, [*Hypocopra*] *fimicola* '06+4; S '21, var. *canina* '08, [*Hypocopra*] *maxima* '20
Sphaerella [*Hyponectria*] *Buxi* '10, '13; S '10, '13, *Elodes* '16, *Primulae* S '12, *Pteridis* S '21, *punctiformis* S '12; '20, *Vaccinii* '08, '12, '13 [last four now as *Mycosphaerella*]
Sphaerostilbe aurantiaca '29, '35
Sphaerotheca Humuli '11+14 (p.p. as *Castagnei*), *pannosa* S '09+10; '10+19, *tomentosa* [*Euphorbiae*] S '25; '36
Sphaerulina Taxi '31, '33
Sporormia ambigua '20, *fimetaria* S '21, *intermedia* '13, '18, '22; S '30, *minima* '04, '05, '08, '13
Stigmatea Ostruthii '15, *Robertiani* '08+10; S '14+13

Teichospora obducens '27 (and S '28 as *Strickeria*)
Tichothecium erraticum '22, *gemmiferum* '22
Trematosphaeria melina S '12
Trichosphaeria barbula '02; S '12, *minima* [*myriocarpa*] '30, '35, *pilosa* '01, '20; S '14

Uncinula Aceris '08+19; S '21, '26, '35, *adunca* [*Salicis*] '01
Ustulina vulgaris '01+24; S '09+16

Valsa ambiens '08+3; S '12, '23, *ceratophora* S '12; '15, '24, *cincta* S '30, *decorticans* '22, *diatrypa* S '36, *Fuckelii* '29, *populina* S '12+4, *salicina* S '30
Valsaria insitiva '20
Venturia inaequalis '21+3; S '33, *pirina* '18 conidial, '29

Xylaria bulbosa S '11; '11, *carpophila* S '09+5; '10+9, *Hypoxylon* '01+34; S '09+23, *longipes* '30, '35, *polymorpha* '07+11; S '13+7 (and var. *pistillaris* '16), *Tulasnei* '12, '34

Zignoella eutypoides '18, *ostioloidea* [*Trichosphaeria myriocarpa*] '20, *pulviscula* '12, '30; S '15, '36 (and S '12, '18, '20 as *Z. ovoidea*) (*Zignoella* entries p.p. as *Melanomma*)

APPENDIX II

Fungi Exsiccati published in Britain

During the years 1825–88 many fungi were issued in Britain as Exsiccati. The Pyrenomycetes included are cited by number in the List of Species unless references are given to publications which report study of Exsiccati. Thus the Erysiphaceae and many species of *Hypoxylon*, *Diaporthe* and Hypocreaceae are given without reference to British Exsiccati.

Some collections of British fungi were sent by Broome for inclusion in Exsiccati issued by Rabenhorst, and by Plowright for Thümen's Exsiccati. These records are included only in part.

"Baxter Exs."—Baxter, W. *Stirpes Cryptogamae Oxoniensis, or Dried specimens of Cryptogamous Plants collected in the vicinity of Oxford. By William Baxter.* Fasc. 1, Nos. 1–50. Oxford, 1825. Fasc. 2, Nos. 51–100. Oxford, 1828. The two Fascicles include some 23 Pyrenomycetes.

"Berk. Exs."—Berkeley, M. J. *British Fungi, consisting of dried specimens of the species described in Vol. V, pt. II of the English Flora, together with such as may be discovered indigenous to Britain. By the Rev. M. J. Berkeley, M.A.* Fasc. 1, Nos. 1–60, 1836. Fasc. 2, Nos. 61–120, 1836. Fasc. 3, Nos. 121–240, 1837. Fasc. 4, Nos. 241–350, 1843. About 70 Pyrenomycetes were included in the four Fascicles.

"Cooke Exs."—Cooke, M. C. *Fungi Britannici Exsiccati.* Centuries I–VI, London 1865–1871. These are quoted above as "Cooke Exs." Series II, Cent. I–VII, 1875–1879. Numbers in this Series are indicated in the List of Species as "Cooke Exs. II". A list of the species in Ser. I and the first five Centuries of Ser. II was published by Cooke in *Grevillea* V, 38–45, 65–73, 99–101. For Ser. II, Cent. VI see **14** (VI, 56–58, 1877) and for Cent. VII **14** (VIII, 21–23, 1879). About 500 of the 1300 numbers are Pyrenomycetes. We have not listed the 50 or more Erysiphaceae included.

"Plowr. Exs."—Plowright, C. B. *Sphaeriacei Britannici.* Fasc. I, Nos. 1–100, 1873. List in *Grevillea* II, 58–60, 1873. Fasc. II, Nos. 1–100, 1875. Fasc. III, Nos. 1–100, 1878. These 300 numbers are of much value to the student of Pyrenomycetes.

"Vize Exs." Vize, John E. *Micro-Fungi Britannici.* Cent. I, Nos. 1–100, 1878. Cent. II, Nos. 101–200, 1879. Cent. III, Nos. 201–300, 1880. Cent. IV, Nos. 301–400, 1882. Cent. V, Nos. 401–500, 1884. Cent. VI, Nos. 501–600, 1888. We have enumerated the 150 Pyrenomycetes (exclusive of Erysiphaceae) issued by Vize.

Vize, *Fungi Britannici*, Cent. I, 1873 and Cent. II, 1875. No Pyrenomycete except No. 100, *Chaetomium elatum*, and a few Erysiphaceae.

Phillips, W. *Elvellacei Britannici.* Cited below, No. 43. No Pyrenomycete.

["Bloxam, British Fungi". Mentioned by Cooke **14** (XV, 102), but evidently not effectively published.]

REFERENCES

The publications have been checked for the present list unless a note is given below to the contrary. Current periodicals were examined to the end of 1937, and many 1938 and some 1939 records are also included. Serial numbers not present in this list will be occupied in subsequent lists by works referring to other fungal groups.

(**1**) Grove, W. B. *British Stem- and Leaf-fungi (Coelomycetes).* Vol. I, 1935; Vol. II, 1937. [Grove suggests conidial stages for various Pyrenomycetes, and includes references to certain species originally described under *Sphaeria*, but which are really pycnidial.]

(**2**) Rea, Carleton (1922). *British Basidiomycetae.*

(**4**) Massee, George (1911). *British Fungi and Lichens.*

(**5**) —— (1910). *Diseases of Cultivated Plants and Trees.*

(**5A**) —— (1915). *Ibid.*, second edition. [The same as No. **5** except for an Appendix of 16 pages.]

(**5B**) —— (1899). *A Text-Book of Plant Diseases.*

(**6**) Smith, Worthington G. (1908). *Synopsis of the British Basidiomycetes.*

(**7**) Massee, G. & Crossland, C. (1905). *The Fungus Flora of Yorkshire.* Yorks. Nat. Union.

(**7A**) Crossland, C. (1904). "The Fungus Flora of the Parish of Halifax" (ex Crump and Crossland, *Flora of Halifax*).

(**8**) Massee, G. *British Fungus Flora.* [Four volumes, but the only Pyrenomycetes described are the Hysteriales and Gymnoascaceae in Vol. IV, 1895.]

(**13**) Stevenson, John (1879). *Mycologica Scotica.* [Includes first publication of many of Cooke's suggested new combinations.]

(14) *Grevillea.* 22 volumes, 1872–94. [Each volume was published half in one year, half in the next year.]
(15) Cooke, M. C. (1871). *Handbook of British Fungi.* [Two volumes with consecutive pagination.]
(17) Cooke, M. C. (1865). *Index Fungorum Britannicorum.* [A list of the names of the fungi recorded in the British Isles up to 1865.]
(18) Berkeley, M. J. (1860). *Outlines of British Fungology.* [Includes a few new combinations and a number of illustrations. Most species of microfungi are merely mentioned, and such have not been indexed above.]
(18A) —— (1891). *Ibid.*, Supplement by W. G. Smith. [Two species of *Xylaria* and a few of *Hypocrea* added to those listed in **18**.]
(19) Berkeley, M. J. & Broome, C. E. (1837–85). *Notices of British fungi.* [All British Pyrenomycetes included in these Notices are listed above by number and year. An index is given by Ramsbottom in **28** (xvii, 308–30).]
(20) Berkeley, M. J. (1836). "Fungi", in *J. E. Smith, English Flora*, Vol. v, Part 2. [These records are included above for the most part directly from Cooke's *Handbook* (**15**).]
(21) *Hooker's London Journal of Botany.* i–iv, 1834–42, 2nd ser. i–vii, 1843–8, 3rd ser. i–ix, 1849–57.
(22) Ministry of Agriculture and Fisheries: *Bulletins, Survey Reports* and *Miscellaneous Publications.* [The more important records have been entered.]
(23) *Journal of the Board of Agriculture.* i–xliii, 1895–1937. [Title changed to *J. Ministry of Agric.* from xxvi, 1919, to date.]
(24) *Scottish Journal of Agriculture.* i–xx, 1918–37.
(25) *Journal of the Department of Agriculture and Technical Instruction, Ireland.* i–xxxiv, 1900–37.
(26) *Welsh Journal of Agriculture.* i–xiii, 1925–37.
(26A) *Welsh Plant Breeding Station Bulletins.*
(27) *Journal of Botany.* i–lxxv, 1863–1937.
(28) *Transactions British Mycological Society.* i–xxii, 1898–1938.
(29) Clements, F. E. & Shear, C. L. (1931). *The Genera of Fungi.*
(30) Salmon, E. S. (1900). "A Monograph of the Erysiphaceae." *Memoir Torrey Bot. Club*, ix.
(30A) —— (1902). "Supplementary Notes on the Erysiphaceae." *Bull. Torrey Bot. Club*, ix.
(31) *Gardeners' Chronicle.* 1841–73 without vol. numbers; new ser. i–xxvi (two vols. per year), 1874–86; 3rd ser. i–c, 1887–1936. [While many records are included from the *Gardeners' Chronicle*, later volumes have not been thoroughly checked.]
(32) *The New Phytologist.* i–xxxvi, 1902–37.
(33) *Annals of Botany*, London. i–l, 1887–1936; 2nd ser. i, 1937.
(34) *Annals of Applied Biology.* i–xxiv, 1914–37.
(35) *The Naturalist*, 1864–1937. [The volumes 1905–37 have been examined; references to preceding volumes are taken from Massee and Crossland, **7** and **7A**.]
(36) *Journal of the Linnean Society of London* (*Botany*). i–li, 1857–1937.
(37) *Kew Bulletin.* 1887–1937 [one vol. per year].
(38) Withering, W. *Botanical Arrangement of the Vegetables . . . Great Britain.* Eight editions, 1776–1835. [His records of Pyrenomycetes were compiled from other sources.]
(39) Greville, R. K. *Scottish Cryptogamic Flora.* Pls. 1–60, 1823; 61–120, 1824; 121–80, 1825; 181–240, 1826; 241–300, 1827; 301–60, 1828.
(40) *Scottish Naturalist.* i–x, 1871–90; continued as *Annals Scottish Natural History*, 1892–1911.
(42) Sowerby, James (1796–1815). *Coloured Figures of English Fungi or Mushrooms.* (The dates are cited by Ramsbottom, **28** (xviii, 167).)
(43) Phillips, William. *Elvellacei Britannici.* Fasc. 1, Nos. 1–50, 1874, 2, Nos. 51–100, 1875, 3, Nos. 101–50, 1877, 4, Nos. 151–201 (plus 3), 1881.

(44) Dickson, James (1785–1801). *Fasciculi Plantarum Cryptogamicarum Britanniae.* [Four fascicles; includes figures and brief descriptions of a few Pyrenomycetes.]
(45) *Transactions Linnean Society.* I–XXX, 1791–1875; 2nd Ser. I–VIII, 1880–1922.
(46) *Proceedings Bristol Naturalists' Society.* Cited for papers by Cedric Bucknall in II–VI (new series), 1878–91. [Bucknall collected and reported many fungi. His own herbarium has been destroyed, but a number of specimens were sent by him to various other mycologists.]
(47) *Transactions of the Highland and Agricultural Society of Scotland.* 1799–1937.
(48) *Irish Naturalist,* I–XXXIII, 1892–1924, continued as *Irish Naturalists' Journal,* I–VI, 1925–37.
(49) *Journal of the Ministry of Agriculture of Northern Ireland.* I–V, 1927–37.
(50) Massee, Geo. & Ivy (1913). *Mildews, Rusts and Smuts.*
(51) Greville, R. K. (1824). *Flora Edinensis.*
(52) Cooke, M. C. *Microscopic Fungi.* [Six "Editions" were published; Ed. 1, 1865, Ed. 4 (revised), 1878, Ed. 6, 1902.]
(53) *Transactions of the Royal Society of Edinburgh,* 1783-1936.
(54) *Transactions of the Norfolk and Norwich Naturalists' Society.* [A few records are cited above from Plowright's papers.]
(55) Purton, Thomas (1817, Appendix 1821). *A botanical description of British Plants in the Midland Counties.*
(56) *Journal of the Royal Horticultural Society.* I–IX, 1846–55; New Series I–LXII, 1866–1937. See **89**.
(57) *Notes from the Royal Botanic Garden, Edinburgh.* I–XIX, 1900–38.
(58) Johnston, Geo. (1831). *Flora of Berwick-upon-Tweed,* Part II.
(59) *Popular Science Review.* [This has not been examined completely.]
(60) *Science Gossip.* London, 1865–1902.
(61) *Nature.* CI–CXL, 1918–37. [The first hundred Vols. of *Nature* were not examined, but few records of Pyrenomycetes can have been missed from them.]
(62) *Journal of Ecology.* I–XXV, 1913–37.
(63) *Journal of the Royal Agricultural Society.* I–XCVIII, 1839–1937. [There is an alternative numbering of volumes in several series.]
(64) *Transactions of the Royal Scottish Arboricultural Society.* I–XLIII, 1858–1929; continued as *Trans. Royal Scot. Forestry Soc.,* XLIV–LI, 1930–7. From XLI called also *Scottish Forestry Journal.*
(65) *Transactions and Proceedings of the Botanical Society of Edinburgh.* I–XXXI, 1841–1935.
(66) *Philosophical Transactions of the Royal Society of London.* 1665–1800 abridged (publ. 1809); 1801–1937.
(67) *Proceedings of the Royal Society of London.* I–CXXI, 1854–1937.
(68) *Journal of the Royal Microscopical Society,* 1878–1937. I–III, 1878–80; Series 2, I–VI, 1881–6; 1887–1926 without vol. nos.; Series 3, XLVII–LVII, 1927–37.
(68A) *Quarterly Journal of Microscopical Science.* I–VIII, 1853–60; New Series I–XXVII, 1861–87.
(69) *Economic Proceedings of the Royal Dublin Society.* I–II, 1899–1935.
(70) *Scientific Proceedings of the Royal Dublin Society.* 1877–1937.
(71) *Proceedings of the Royal Irish Academy.* I–XLIII, 1836–1937.
(72) *Scottish Botanical Review.* One volume, 1912.
(73) *Journal of the Quekett Microscopical Club.* I–VI, 1868–1881; Ser. II, I–XVI, 1882–1933; Ser. III, I, 1934–7.
(74) *Journal of Economic Biology.* I–X, 1905–15.
(75) *Journal of Hygiene.* 1901–37.
(76) *Forestry.* I–XI, 1927–37.
(77) *Reports East Malling Research Station,* 1922–37.
(78) *Long Ashton Station Reports* for the years 1903–36.

(79) *Seale-Hayne Agricultural College.* Reports of the Dept. Plant Pathology, 1924–37.
(80) Bewley, W. F. (1923, reprinted 1928). *Diseases of Glasshouse Plants.*
(81) Smith, W. G. (1884). *Diseases of Field and Garden Crops.*
(82) *Cheshunt Station Reports*, 1914–37.
(83) *The Garden.* I–XCI, 1872–1927. [Not thoroughly checked.]
(84) *Scientific Horticulture*, I–V, 1932–7. (I and II as *H.E.A. Year Book.*)
(85) *Journal of the South-Eastern Agricultural College, Wye, Kent.* Nos. 1–40, 1895–1937.
(86) *Journal of the Board of Greenkeeping Research.* Vols. I–IV, 1929–36.
(87) *Agricultural Progress.* 1924–37.
(89) Cooke, M. C. (1906). *Fungoid Pests of Cultivated Plants.* (Reprinted from *Jour. Royal Hort. Soc.*, 1903–5.)
(90) *Journal of the Textile Institute.* [Not examined. References to fungi from this Journal were compiled by Thaysen and Bunker, **116**.]
(91) Berkeley, M. J. (1857). *Introduction to Cryptogamic Botany.*
(92) Hooker, W. J. (1821). *Flora Scotica.*
(93) Ainsworth, G. C. (1937). *The Plant Diseases of Great Britain.*
(94) *Quarterly Journal of Forestry.* I–XXXI, 1907–37.
(95) Lightfoot, John (1777, 2nd Ed. 1789). *Flora Scotica.* [Contains few recognizable Pyrenomycetes.]
(96) *Transactions of the Royal Caledonian Horticultural Society*, 1921–37.
(97) Ward, H. Marshall (1889). *Diseases of Plants.*
(98) Berlese, A. N. (1890–1905). *Icones Fungorum.* I, pp. 1–28, 1890, pp. 29–50, 1891, pp. 51–118, 1892, pp. 119–235, 1893. II, pp. 1–28, 1895, pp. 29–68, 1896, pp. 69–112, 1897, pp. 113–216, 1899. III, pp. 1–52, 1900, pp. 53–104, 1902, pp. 105–20, 1905.
(99) *Phytopathology.* I–XXVII, 1911–37.
(100) *Mycologia.* I–XXX, 1909–38.
(101) *Annals of the Missouri Botanical Garden.* I–XXIV, 1914–37.
(102) *Annales Mycologici.* I–XXXV, 1903–37. [Checked for papers by British workers, and for some of the continental literature.]
(103) *Journal of Agricultural Science.* I–XXVII, 1905–37.
(104) *Journal of Pomology and Horticultural Science.* I–XV, 1919–37.
(105) *Hedwigia.* I–LXXVI, 1852–1937. [Not carefully examined.]
(106) *Essex Naturalist.* I–XXV, 1887–1937.
(107) Swanton, E. W. (1934). *Fungi of the Haslemere District.*
(108) *Transactions of the Worcestershire Naturalists' Club.* [Several references given above to fungi recorded 1926–33.]
(109) *Transactions Woolhope Field Club.* [Not checked.]
(110) *Journal of Agricultural Research.* I–LV, 1913–37.
(111) Bolton, James. *An History of Funguses growing about Halifax.* Plates 1–92, 1788, 93–138, 1789, 139–82, 1791. [Our references to Bolton were taken mostly from Nos. **7** and **15** of this list. See also Shear **28** (XVII, 302).]
(112) Brooks, F. T. (1928). *Plant Diseases.*
(113) *Proceedings of the Coventry Natural History and Scientific Society.* [Cited for papers by C. G. C. Chesters.]
(114) Tulasne, L. R. & C. *Selecta Fungorum Carpologia.* I, 1861, II, 1863, III, 1865. [Grove's translation has been used, the page references have been taken from those in brackets which follow the pages of the original, but may be one page in error.]
(115) Mason, F. A. & Grainger, John (1937). *A Catalogue of Yorkshire Fungi.*
(116) Thaysen, A. C. & Bunker, H. J. (1927). *The Microbiology of Cellulose, Hemicelluloses, Pectin and Gums.*
(117) *Bulletin de la Société Mycologique de France*, I–LIII, 1885–1937. [Not carefully checked.]
(119) Keissler, K. von (1930). Die Flechtenparasiten. Rabenh. *Krypt.-Flora*, 2 Aufl., Die Flechten, VIII. [This work has been consulted for Pyrenomycetes recorded on lichens from Britain.]

INDEX TO GENERA AND SPECIES

A numeral in italics refers to a name entered as a synonym or otherwise not accepted. The more complete citation of authors is given in the List of Species: here pre-Friesian authors are omitted, except for genera, names cited as synonyms, and for the Erysiphaceae.

A specific epithet is entered but once, under the generic name here accepted. Thus "Parmeliarum" is indexed only as Leptosphaeria although it has been placed in five other genera.

abbreviata (Cooke) Sacc., Leptosphaeria, 182
Abietis Cooke, Apiosporium, 137
Abietis (Fr.) Fr., Valsa, 141
abnormis (Fr.) Berl. & Vogl., Quaternaria, 141
abrupta Cooke, Valsa, 141
abscondita Sacc. & Roum., Pleospora, 190
abundans Dobrozr., Naumovia, 193
Acanthophiobolus Berl., 193
Acanthostigma de Not., 176
Acerbia (Sacc.) Berl., *195*
acerifera (Cooke) Lindau, Guignardia, 145
acerina Rehm, Didymosphaeria, 173
Aceris Fuckel, Diaporthe, 159
Aceris Phill. & Plowr., Melanconis, 167
Aceris (DC.) Sacc., Uncinula, 136
acervalis (Moug.) Sacc., Gibberella, 197
acervata (Fr.) Fr., Cucurbitaria, *189*
Acharii Tul., Eutypa, 139
acorella (Cooke) Berl. & Vogl., Metasphaeria, 178
Acrospermum Tode ex Fr., 208
Actidium Fr., 209
Actiniopsis Starb., 195
Actobii Thaxt., Teratomyces, 132
acuminatus (Fr.) Duby, Ophiobolus, 193
acus (Blox.) Cooke, Diaporthe, 159
acuta (Fr.) Karst., Leptosphaeria, 182
Adelopus Theiss., 137
adunca (Rob.) Niessl, Diaporthe, 159
advena Ces. & de Not., Botryosphaeria, *143*
Aegopodii (Fr.) Oudem., Stigmatea, 207
aeruginosum Mont., Myxotrichum, 133
Aesculi (Fuckel) Petrak, Cryptodiaporthe, 158
aesculicola (Cooke) Berl. & Vogl., Diaporthe, *158*
affinis Cooke, Diatrypella, *139*
affinis (Grev.) Sacc., Paranectria, 201
aglaeostoma (B. & Br.) Sacc., Pseudovalsa, 187
Aglaospora de Not., 181
agnita (Desm.) Ces. & de Not., Leptosphaeria, 182
Agrostidis (Fuckel) Sacc., Dothidella, 205
Ailanthi Sacc., Diaporthe, 159
Ailanthi (Sacc.) Sacc., Eutypella, 140
Albertini B. & Br., Nectria, *198*
albidum Ghatak, Microeurotium, 134
album Dowson, Cladosporium, *197*
Alchemillae A. L. Smith & Ramsb., Rosellinia, 154
Alchemillae (Grev.) Wint., Coleroa, 158
Alliariae Auersw., Sphaeria, *184*
allicina (Fr.) Vesterg., Mycosphaerella, 168
Allii (Rabenh.) Ces. & de Not., Pleospora, 190
alnea Fuckel, Diaporthe, 159
Alni (Otth) Sacc., Massarina, 178
Alni Tul., Melanconis, 167
Alni Wint., Microsphaera, var. extensa, 135
Alni A. L. Smith, Sphaerulina, 179
alnicola (Cooke & Massee) Sacc., Calospora, 176
alutaceum (Fr.) Atk., Podostroma, 204
ambiens (Fr.) Fr., Valsa, 141
ambigua Nits., Diaporthe, 159
ambigua Sacc., Lasiosphaeria, 177
ambigua Niessl, Sporormia, 187
amblyospora B. & Br., Sphaeria, *186*
americana Speg., Diaporthe, 159
americanum Duby, Ostreion, 211
Ammophilae (Phill. & Plowr.) Sacc., Anthostomella, 148
amoenum (Nits.) Sacc., Anthostoma, 147
ampelina Shear, Elsinoe, *207*
ampelophagum (Pass.) Sacc., Gloeosporium, *207*
Amphisphaeria Ces. & de Not., 173
amplum (B. & Br.) Duby, Glonium, 209
Ampullaria A. L. Smith, *199*
ampullasca (Cooke) Sacc., Ceratostomella, 143

amygdalina Cooke, Valsa, 144
anarithma (B. & Br.) Sacc., Metasphaeria, 178
Ancyrophori Thaxt., Euhaplomyces, 132
Angelicae (Berk.) Wehmeyer, Diaporthopsis, 144
Angelicae (Fr.) Fuckel, Phyllachora, 206
anglica (Sacc.) Sacc., Trematosphaeria, 188
angulata Fr., Sphaeria, *139*, *164*
angustata Fuckel, Coronophora, 137
angustatum (Fr.) Chev., Hysterium, 210
angustatum (Fr.) Fuckel, Lophiostoma, *204*
angustilabrum (B. & Br.) Sacc., Lophiotrema, 205
Anisogramma Theiss. & Syd., *206*
Anixia Fr., 133
Anixiopsis Hansen, 134
anomia (Fr.) Petrak, Massaria, *181*
anserina (Ces.) Wint., Sordaria, 155
anserina (Fr.) Sacc., Valsaria, 175
Antennaria Link ex Fr., 136
Anthostoma Nits., 147
Anthostomella Sacc., 148
anthostomoides Berl., Rosellinia, 154
Aparines (Fuckel) Sacc., Leptosphaeria, 182
apiculata (Curr.) Wint., Rhynchostoma, 175
Apiocrea Syd., 195
Apioporthe von Höhnel, 157
Apiorhynchostoma Petrak, *175*
Apiospora Sacc., 205
Apiosporium Kunze ex Fr., 137
Aponectria Sacc., *199*
Aporhytisma von Höhnel, 143
apotheciorum Massal., Sphaeria, *176*
appendiculosa (B. & Br.) Sacc., Anthostomella, 148
applanata (Niessl) Sacc., Didymella, 164
Aquifolii (Fr.) Berk., Nectria, 199
aquila (Fr.) de Not., Rosellinia, 154
aquilina (Fr.) Schroet., Mycosphaerella, 168
Arachniotus Schroet., 133
arachnoides Massee & Salm., Chaetomium, 149
Arachnomyces Massee & Salm., 134
aranicida Boud., Torrubiella, 201
Araucariae Cooke, Sphaeria, *173*
Arbuti (Fr.) Sacc., Sphaerella, 170
arcana Cooke, Sphaerella, 170
Arctii (Lasch) Nits., Diaporthe, 159
arcuata Curr., Sphaeria, *187*
arenaria Mouton, Didymosphaeria, 173
arenicola Grove, Sordaria, 155
arenula (B. & Br.) Cooke, Dialonectria, 196, *200*
argentina Speg., Phomatospora, 146
argillacea Phill. & Plowr., Hypocrea, 203
argillaceum Auct., Hypoxylon, 151
argus (B. & Br.) Fresen., Massaria, 185
Ariae (DC.) Fuckel, Gnomonia, *166*
Armeriae (Rabenh.) Ces. and de Not., Pleospora, 190
Arthroderma Currey, *133*
arundinacea (Fr.) Sacc., Leptosphaeria, 182
arundinaceum (Fr.) Chev., Lophodermium, 210
Arundinis (Fr.) Ces. & de Not., Lophiostoma, 204
Arundinis Desm., Perisporium, 136
Ascophylli Cotton, Mycosphaerella, 168
Ascophylli Sutherland, Orcadia, 201
Ascophylli Sutherland, Trailia, 201
Ascotricha Berk., 148
Ashwelliana (Curr.) Sacc., Metasphaeria, 178
Asparagi Rabenh., Pleospora, 190
Aspegrenii Ces. & de Not., Cucurbitaria, 189
Aspegrenii (Fr.) Fuckel, Melanomma, 186
aspera (Fr.) Nits., Diatrypella, 138
aspera (Nits.) Fuckel, Eutypa, 139
Aspergillus Mich. ex Fr., *134*
Asteridium Sacc., 137
Asterina Lév., 208
asterophorus Tul., Hypomyces, 197
Astragali (DC.) Trev., Microsphaera, 135
ater Cooke, Hypomyces, *195*
aterrima (Fr.) von Höhnel, Eutypa, *139*
Athetae Thaxt., Monoicomycea, 132
atomus (Desm.) Oudem., Mycosphaerella, 168
atramentaria (Cooke) Schroet., Coleroa, 158
atropurpureum Fr., Hypoxylon, *151*
atrovirens, Sphaeria, var. Rusci Fr., *185*
atrum Link, Chaetomium, 149
Aubertii (Westend.) Wehmeyer, Cryptodiaporthe, 158
aucta (B. & Br.) Sacc., Pseudovalsa, 187
Aucubae Sacc., Diaporthe, 159
Aucupariae (A. L. Smith) Theiss. & Syd., Dothiora, 207

Aucupariae (Lasch) Rostrup, Venturia, 172
Aulographum Lib., 209
aurantiaca Plowr. & Wilson, Barya, 195
aurantiaca Tul., Sphaerostilbe, 201
aurantius (Fr.) Tul., Hypomyces, 197
aurea A. L. Smith, Ampullaria, *199*
aurea (Fuckel) Sacc., Cryptosporella, 144
aurea Cooke, Nectria, *196*
aureola (Wint.) Sacc., Lasionectria, 198
aureonitens (Tul.) Petch, Hyphonectria, 197
aureoviridis (Plowr. & Cooke) Petch, Chromocrea, 202
aureus (Eidam) Cohn, Arachniotus, 133
australe Mont., Capnodium, 137
Avellanae (Fr.) Sacc., Gnomoniella, 144
Avenae Ito, Pyrenophora, 192

bacillatum (Cooke) Sacc., Ophioceras, 195
Badhami (Curr.) Cooke & Plowr., Diaporthe, 159
Bagnisiella Speg., 207
Balani Wint., Epicymatia, 176
balsamianum (Ces. & de Not.) Sacc. & Berl., Lophiostoma, 204
balsamicola (Peck.) Theiss., Adelopus, 137
barbula (B. & Br.) Wint., Trichosphaeria, 147
Bardanae (Fuckel) Rehm, Ophiobolus, 194
Bardanae Niessl, Pleospora, 190
Bartlettii Massee & Salm., Magnusia, 134
Barya Fuckel, 195
Baryanus Tul., Hypomyces, *197*
basicola Zopf, Thielavia, 134
Baumleri P.Magn., Microsphaera, 135
Battarrina (Sacc.) Clem. & Shear, 195
Beckhausii Nits., Diaporthe, 160
Berberidis (Fr.) Grev., Cucurbitaria, 189
Berberidis Cooke, Diatrype, 138
Berberidis (DC.) Lév., Microsphaera, 135
Berkeleyana (Plowr. & Cooke) Petch, Hyphonectria, 197
Berkeleyi Schroet., Chaetomium, *149*
Berkeleyi Boud., Peristomialis, *195*
Berkeleyi Sacc., Phomatospora, 146
Berkeleyi (Tul.) Sacc., Pseudovalsa, 187
Berkeleyi Desm., Sphaeria, *144*
Berlesiella Sacc., 189
berolinensis Sacc., Pleonectria, 201
Bertia de Not., 157
Betae (Oudem.) Frank, Phoma, *170*
Betulae Tul., Cryptospora, 193
Betulae Schroet., Pseudovalsa, *187*
betulina (Fr.) Schroet., Euryachora, 206
betulina Sow., Sphaeria, *187*
bicolor Fuckel, Cucurbitaria, 189
biconica (Curr.) Sacc., Diaporthe, *167*
bicuspidatum Cooke, Lophiostoma, 204
Bidwellii (Ell.) Viala & Ravaz, Guignardia, 145
biformis Thaxt., Dichomyces, 131
biformis (Fr.) Sacc., Gloniopsis, 209
biformis (Fr.) Sacc., Lasiosphaeria, 177
bifrons (Fr.) Sacc., Hypospila, 177
bipapillata (Tul.) Sacc., Fenestella, 189
bipartis Cain, Sporormia, 187
bisporula (Crouan) Hans., Delitschia, 173
bitorulosa (B. & Br.) Sacc., Diaporthe, 167
blepharodes (B. & Br.) Sacc., Diaporthe, *158*
Bloxami Cooke, Valsa, *167*
Bloxami (B. & Br.) Fuckel, Nectriella, 200
bohemica Bubák & Kab., Rehmiellopsis, 171
Bolacotricha Berk. & Br., *133*
bombarda Batsch, Sphaeria, *149*
Bombardia Fr., 149
bombardioides Auersw., Sordaria, 155
borealis Karst., Melanopsamma, 167
bostrychodes Zopf, Chaetomium, 149
Botryosphaeria Ces. & de Not., 143
botrys Nits., Hypoxylon, 152
bovilla Cooke, Sphaeria, 149
Bovilla Sacc., *149*
Boydia A. L. Smith, 158
brachysporum (Rostr.) Tubeuf, Hypoderma, 209
brachytheca Cooke, Sphaerella, 171
brachythele (B. & Br.) Sacc., Melanomma, 186
Brassicae (Ellis & Sacc.) Cooke, Dialonectria, 196
Brassicae Cooke, Diatrype, 138
Brassicae (Klotz.) Wint., Podospora, 154
Brassicae T. Johnson, Sphaerella, 171
Brassicae (Chev.) B. & Br., Sphaeria, *168*

Brassicae Grove, Sporormia, 187
brassicicola (Duby) Oudem., Mycosphaerella, 168
brevirostris (Fuckel) von Höhnel, Melanospora, 198
brevis Sow., Sphaeria, *138*
britannicus Thaxt., Monoicomyces, 132
Broomeanus Tul., Hypomyces, 197
Broomella Sacc., 176
brunneola (Fr.) Cooke, Sphaerella, 170
Bryoniae (Fuckel) Rehm, Didymella, 165
bryophila (Rob.) Cooke, Byssonectria, *197*
bufonia (B. & Br.) Speg., Massariella, 174
bulbosa (Fr.) B. & Br., Xylaria, 156
bullata (Fr.) Fr., Diatrype, 138
Bulliardi Tul., Melogramma, *187*
Bulliardi Tul., Nummularia, 153
Buxi (Fuckel) Wint., Gibberella, 197
Buxi (Desm.) Sacc., Hyponectria, 198
Buxi Fabre, Rosellinia, 154
byssiseda Tode, Sphaeria, *154*
Byssochlamys Westling, 132
Byssonectria Karst., 195

caesia (Curr.) Sacc., Trichosphaeria, 147
caesium Nees ex Fr., Gonytrichum, *166*
caespitosum A. L. Smith, Xylobotryum, *175*
Cafii Thaxt., Laboulbenia, 132
calcaricola (Mudd) Arnold, Tichothecium, 175
callicarpa (Curr.) Nits., Caryospora, 181
callicarpa Sacc., Trematosphaeria, 188
callimorpha (Mont.) Sacc., Chaetosphaeria, 181
callosa Wint., Rosellinia, 154
Calonectria de Not., 195
Calosphaeria Tul., 137
Calospora Sacc., 176
calostroma (Desm.) von Höhnel, Irene, 136
calva (Fr.) Stevenson, Lasiosphaeria, 177
calvescens (Fr.) Sacc., Pyrenophora, 192
Calyculosphaeria Fitzpatrick, 158
Camarops Karst., 149
campylostyla Auersw., Gnomonia, 166
cancellatum Phill., Myxotrichum, 133
candicans Plowr., Hypomyces, *197*
candidus (Eidam) Schroet., Arachniotus, 133
canescens (Speg.) Berl., Chaetomastia, 181
canescens (Fr.) Karst., Lasiosphaeria, 177
caninae (Phill. & Plowr.) Sacc., Leptosphaeria, 182
Cantharomyces Thaxt., 131
capillifera (Curr.) Sacc., Hypocopra, 151
capitata (Fr.) Link, Cordyceps, 202
Capnodium Mont., 137
Capreae (DC.) Fuckel, Linospora, *193*
caprina (Fr.) Sacc., Melanospora, 198
caprinum Bainier, Chaetomium, 149
Caproni (Cooke) Berl. & Vogl., Valsaria, 175
Capronia Sacc., 189
Capronii Sacc., Bovilla, *149*
Capronii Sacc., Sphaerella, 171
carbonaria (Phill. & Plowr.) Sacc., Sordaria, 155
cariceti (B. & Br.) Sacc., Ophiobolus, 194
caricicola (Fuckel) Lind, Guignardia, 145
caricinum (Rob.) Duby, Lophodermium, 210
Caricis (Fr.) Sacc., Phyllachora, 206
carinthiaca Jaap, Mycosphaerella, 168
Carlylei Cooke & Massee, Stuartella, 180
Carmichaeliana (Berk.) Sacc., Farlowiella, 209
carneo-albus (Lib.) B. & Br., Oomyces, 203
carpinea (Fr.) Schroet., Guignardia, 145
Carpini (Fr.) Fuckel, Diaporthe, 160
carpinicola Fuckel, Diaporthe, *167*
carpophila (Fr.) Fr., Xylaria, 156
Caryospora de Not., 181
Casnoniae Thaxt., Laboulbenia, 132
castanea (Tul.) Wehmeyer, Cryptodiaporthe, 158
caudata (Curr.) Sacc., Sordaria, 155
caulicola (Moug.) Sacc., Didymella, 165
caulina Cooke, Nectria, *144*
caulium (Fr.) Ces. & de Not., Lophiostoma, 204
celata (Curr.) Sacc., Didymosphaeria, 173
Cephalotheca Fuckel, 134
ceramblicola, *see* coramblicola
Cerasi Fuckel, Diaporthe, 160
cerastis (Riess) Ces. & de Not., Gnomonia, 166
ceratophora Tul., Valsa, 141
ceratosperma Tode, Sphaeria, *141*
Ceratosphaeria Niessl, 176

"**Ceratostoma** Fr.", 149
Ceratostomella Sacc., 143
cerealis Pass., Gibellina, 174
cerinarium (Mudd) Berl. & Vogl., Tichothecium, 175
Ceriophora von Höhnel, *174*
Ceriospora Niessl, *176*
Ceriosporella Berl., 158
Cesatiella Sacc., 196
cervinus Tul., Hypomyces, *198*
cetrariicola (Cooke) Sacc., Metasphaeria, 178
ceuthocarpa Fr., Sphaeria, *193*
ceuthospora Cooke, Valsa, 142
ceuthosporoides (Berk.) Sacc., Diaporthe, 160
Chaetomastia (Sacc.) Berl., 181
Chaetomium Kunze ex Fr., 149
Chaetomium (Fr.) Rabenh., Coleroa, 158
Chaetomium (Corda) Ces. & de Not., Venturia, *171*
Chaetosphaeria Tul., 181
Chailletii Nits., Diaporthe, 160
chartarum Berk., Ascotricha, 149
chartarum Fr., Chaetomium, 149
chartarum Fr., Myxotrichum, 133
chionea (Fr.) Corda, Melanospora, 198
Chitonomyces Peyritsch, 131
chlorinum (Sacc.) Grove, Chaetomium, 149
chlorospora (Ces.) Karst., Venturia, 172
chlouna (Cooke) Lindau, Mycosphaerella, 168
chomatosporum Corda, Coniothecium, *159*
Chondri (Rostr.) Rosenv., Leptosphaeria, 182
Chromocrea Seaver, 202
chrysites (Westend.) Sacc., Nectriella, 200
chrysosperma (Tul.) Syd., Apiocrea, 195
chrysostroma (Fr.) Tul., Melanconis, *167*
Cichoracearum DC, Erysiphe, 135
ciliaris (Curr.) Sacc., Diaporthe, 160
cincta (Fr.) Fr., Valsa, 142
cincta (Curr.) Sacc., Valsaria, 175
cinerascens Fuckel, Sphaerella, *172*
cingulata (Stonem.) Spauld. & von Schrenk, Glomerella, 144
cinnabarina (Fr.) Fr., Nectria, 199
cinnabarinus Corda, Acrostalagmus, *200*
circinans (Fuckel) Sacc., Leptosphaeria, 182
circumscripta (Fr.) Otth, Diaporthe, 160
circumvoluta Sow., Sphaeria, *177*
cirrhata Berk., Melanospora, 198
cirrhosa (Fr.) Sacc., Ceratostomella, 143
Citri Berk. & Desm., Capnodium, *137*
citrina (Fr.) Fr., Hypocrea, 203
citrino-aurantia (de Lacr.) Desm., Nectria, 199
citrinus Massee & Salm., Arachniotus, 133
citrullina Grossenb., Mycosphaerella, *165*
cladophilum (Lév.) Rehm, Lophodermium, 210
clandestina (Biv.-Bern.) Schroet., Uncinula, 136
clara (Cooke) Sacc., Leptosphaeria, 182
Clavariarum (Tul.) Fuckel, Helminthosphaeria, 151
Claviceps Tul., 202
clavulata (Schw.) Petch, Ophiocordyceps, 203
Clematidis Fuckel, Pleospora, 190
clivensis (B. & Br.) Sacc., Leptosphaeria, 182
clivinalis Thaxt., Laboulbenia, 132
clymenia (Sacc.) Oudem., Mycosphaerella, 168
clypeata (de Not.) Sacc., Anthostomella, 148
clypeata Nees, Sphaeria, 181
clypeata Fuckel, Valsella, 143
Clypeolum Speg., 208
Clypeosphaeria Fuckel, 181
coccinea (Fr.) Fr., Nectria, 199
"coccineum Bull.", Hypoxylon, 152
cochliodes Palliser, Chaetomium, 149
coeruleum (Münch) Syd., Ophiostoma, 146
cohaerens (Fr.) Fr., Hypoxylon, 152
Coleroa (Fr.) Rabenh., 158
collabens (Curr.) Sacc., Zignoella, 180
collapsa (Romell) Fitzp., Calyculosphaeria, 158
collapsa (Griff.) Sacc. & D. Sacc., Philocopra, 153
comata Tode, Sphaeria, *149*
commanipula (B. & Br.) Sacc., Didymella, 165
commune (Fr.) Duby, Hypoderma, 209
complanata (Fr.) Sacc., Metasphaeria, 178
compressum Fr., Acrospermum, 208
compressum (Fr.) Sacc., Lophidium, 204
Compsomyces Thaxt., 131
compta (Tul.) Sacc., Cryptosporella, 144

concamerata (Curr.) B. & Br., Valsa, 142
concentrica (Fr.) Ces. & de Not., Daldinia, 150
conferta (Fr.) Fr., Stigmatea, 208
confluens (Fr.) Cooke, Hypoxylon, *152*
conformis (B. & Br.) Sacc., Metasphaeria, 179
"conglobata", Cucurbitaria, *186*
conglomerata (Wallr.) Lindau, Mycosphaerella, 168
coniformis Fr., Sphaeria, *182*
conigenum (Fr.) Sacc., Hypoderma, 209
Coniochaeta Sacc., *154*
Coniothyrium (Fuckel) Sacc., Leptosphaeria, 182
conjuncta (Fr.) Fuckel, Diaporthe, 160
conoidea Niessl, Didymosphaeria, 173
conoidea (de Not.) Sacc., Leptosphaeria, 182
conorum (Desm.) Niessl, Diaporthe, 160
contorta (Schw.) Berk. & Curt., Hypocrea, *203*
controversa (Desm.) Nits., Diaporthe, 160
convergens (Fr.) Sacc., Pseudovalsa, 187
Cookeana (Auersw.) Feltgen, Guignardia, 145
Cookei Pirotta, Leptosphaeria, 182
Coprolepa Fuckel, 150
coprophila (Fr.) Ces. & de Not., Sordaria, *149*, 155
coprophilus Massee & Salm., Endomyces, 132
coramblicola (B. & Br.) Sacc., Diaporthe, 160
Cordyceps (Fr.) Link, 202
Corni Fuckel, Diaporthe, 160
Corni Sacc., Didymella, 165
Corni (Fr. & Mont.) Sacc., Massaria, 186
Corni Sacc., Physalospora, 146
cornicola Cooke, Valsa, 142
corniculata (Ehrh.?) Berl., Peroneutypa, 141
corniella Cooke, Sphaeria, *146*
corniformis Fr., Xylaria, 156
Corni-sueciae Fr., Sphaeria, *165*
corona Sow., Sphaeria, *167*
coronata (Fr.) Fr., Valsa, 142
coronifera Grove, Sordaria, 155
Coronophora Fuckel, 137
Cortadeniae Grove, Didymella, 165
corticis Sow., Sphaeria, *138*
corticola (Fuckel) Sacc., Metasphaeria, 179
corylaria (Wallr.) Fuckel, Sphaerella, *170*
corylea (Pers.) Karst., Phyllactinia, 135
Coryli (Fr.) Sacc., Gnomoniella, 145
Coryli Fuckel, Nectria, 199
corylina (Tul.) Fuckel, Cryptospora, 193
crassipila Grove, Trichosphaeria, 147
crastophila Niessl, Didymosphaeria, 173
Crataegi (Curr.) Nits., Diaporthe, 160
Crataegi (Fuckel) Oudem., Mycosphaerella, 168
Crataegi Fuckel, Otthia, 174
crinigera (Cooke) Sacc., Ceratosphaeria, 176
crispatum Fuckel, Chaetomium, 149
cristata ([Pers.]) Sacc., Lophiella, 204
cruciferarum (Fr.) Lindau, Mycosphaerella, 168
cruenta Sacc., Leptosphaeria, 182
crustaceum Nits., Hypoxylon, *152*
crustosa Sacc. & Roum., Diaporthe, 160
cryptica Nits., Diaporthe, 160
Cryptoderis Auersw., 176
Cryptodiaporthe Petrak, 158
Cryptosphaeria Grev., 138
Cryptospora Tul., 193
Cryptosporella Sacc., 144
Cryptosporii Curr., Sphaeria, *193*
Cryptovalsa (Ces. & de Not.) Fuckel, 138
Ctenomyces Eidam, 133
cubiculare (Fr.) Nits., Anthostoma, 147
Cucurbidothis Petrak, *189*
Cucurbitaria S. F. Gray ex Grev., 189
cucurbitula (Fr.) Sacc., Nectria, 199
Culleniae B. & Br., Xylaria, 156
culmicola (Fr.) Karst., Leptosphaeria, 183
culmifida (Karst.) Sacc., Metasphaeria, 179
culmifraga (Fr.) Ces. & de Not., Leptosphaeria, 183
culmigena Sacc., Didymella, 165
culmigenum (Fr.) Karst., Lophodermium, 210
culmorum Auersw., Leptosphaeria, *184*
culmorum (Cooke) Sacc., Pleospora, 190
culta Sacc. & Speg., Diaporthe, 160
cumana (Sacc. & Speg.) Sacc., Metasphaeria, 179
cupularis (Fr.) Petch, Chromocrea, 202
cupularis (Fr.) Karst., Nitschkia, 140
cupulifera (B. & Br.) Sacc., Chaetosphaeria, 181
Curreyi Berk., Arthroderma, *133*

Curreyi Sacc., Lophiotrema, 205
Curreyi (Tul.) Sacc., Massariella, 174, *178*
Curreyi Auersw., Sordaria, *154*
Curreyi Blox., Sphaeria, *180*
Curreyi Nits., Valsa, 142
curvata Sacc., Gloniopsis, 209
curvicolla Wint., Sordaria, 155
curvirostra (Fr.) Sacc., Gnomonia, 166
curvula de Bary, Sordaria, 155
cyanogena (Desm.) Sacc., Gibberella, 197
cyclospora (Cooke) Sacc., Anixia, 133
Cydoniae Grove, Mycosphaerella, 168
Cydoniae Arnaud, Physalospora, *147*
cylindrospora (Sollm.) Berl. & Vogl., Ophionectria, 201
Cypri Tul., Valsa, 142

dacrymycella Cooke & Plowr., Hypocrea, *202*
dacrymycella (Nyl.) Rehm, Nectriella, 200
Daldinia Ces. & de Not., 150
damnosa (Sacc.) Lindau, Melanospora, 198
dealbata (Cooke) Berl., Metasphaeria, 179
decedens (Fr.) Fuckel, Diaporthe, 160
decipiens (Fr.) Nits., Anthostoma, 148
decipiens (Tul.) Reess, Endomyces, 132
decipiens de Not., Gloniopsis, 209
decipiens (Karst.) Sacc., Mytilidion, 211
decipiens Wint., Sordaria, 156
decomponens Sow., Sphaeria, *139*
decorticans (Lib.) Sacc. & Roum., Diaporthe, 160
decorticans Sow., Sphaeria, *138*
decorticans (Fr.) Fr., Valsa, 142
decorticatum Berk., Hypoxylon, *152*
deflectens Karst., Teichospora, 193
deflexum Berk., Myxotrichum, 133
delicatula (Tul.) Petch, Protocrea, 201
delitescens Bomm. Rouss. & Sacc., Diaporthe, 160
Delitschia Auersw., 173
denigrans (Curr.) Sacc., Anthostoma, 148
denigratus Thaxt., Cantharomyces, 131
denotata (Cooke & Ellis) Sacc., Pleospora, 190
densa Bres., Leptosphaeria, 183
depauperata (Desm.) Fuckel, Scirrhia, *206*
depazeiformis (Auersw.) Lindau, Mycosphaerella, 168
depressa Bolt., Sphaeria, *138*
derasa (B. & Br.) Thüm., Leptosphaeria, 183
Dermascia Tehon, *210*
Desmazierii (de Not.) Petch, Dialonectria, 196
Desmazierii Niessl, Diaporthe, 160
Desmazierii Duby, Hypoderma, 209
Desmazierii (B. & Br.) Sacc., Rosellinia, 154
destruens (Shear) Shear, Melanospora, 198
detonsa Cooke, Rosellinia, 154
detrusa (Fr.) Fuckel, Diaporthe, 160
deusta Hoffm., Sphaeria, *156*
devexa (Desm.) Sacc., Gnomoniella, 145
Dialonectria Sacc., 196
Dianthi C. C. Burt, Didymellina, 165
Dianthi de Not., Pleospora, 190
Diaporthe Nits., 159
Diaporthopsis Fabre, 144
diatrypa (Fr.) Fr., Valsa, 142
Diatrype Fr. p.p., 138
Diatrypella (Ces. & de Not.) Sacc., 138
Dichaena Fr., 209
Dichomyces Thaxt., 131
Dickiei (B. & Br.) Ces. & de Not., Venturia, 172
Didymella Sacc., 164
Didymellina von Höhnel, 165
Didymosphaeria Fuckel, 173
digitata (Fr.) Grev., Xylaria, 156
Dilophia Sacc., 193
Dimerosporium Fuckel, *208*
dioica (Fr.) Sacc., Leptosphaeria, 183
Diplocarpon Wolf, *207*
diplospora (Cooke) Rehm, Didymosphaeria, 173
disciformis (Fr.) Fr., Diatrype, 138
discoidea Cooke & Peck, Diatrypella, 138
discors Sacc., Diaporthe, 160
discospora (Auersw.) Fuckel, Hypocopra, 151
discospora Massee & Salm., Melanospora, 198
discospora Plowr., Philocopra, 153
discrepans Sacc., Diaporthe, 160
discreta (Schw.) Tul., Nummularia, 153
discutiens (Berk.) Sacc., Diaporthe, 160
dispersa (Lahm) Wint., Pharcidia, *176*
dissepta (Fr.) Tul., Quaternaria, 141
ditissima Tul., Nectria, *200*
ditopa (Fr.) Schroet., Ditopella, 144
Ditopella de Not., 144
ditricha (Fr.) Karst., Venturia, 172
dochmia (B. & Br.) Sacc., Didymosphaeria, 173

dolioloides (Auersw.) Karst., Leptosphaeria, 183
doliolum (Fr.) de Not., Leptosphaeria, 183
donacina (Fr.) Niessl, Pleospora, 190
Dothidea Fr., 205
Dothidea (Fr.) Ces. & de Not., Botryosphaeria, 143
Dothidella Speg., 205
Dothiora Fr., 207
dryina (Curr.) Nits., Calosphaeria, 137
dryophilum (Curr.) Sacc., Anthostoma, 148
dubia Thaxt., Laboulbenia, 132
dubiella (Nyl.) A. L. Smith, Pharcidia, 171
Dulcamarae (Fr.) Fr., Cucurbitaria, 189
Dulcamarae Nits., Diaporthe, *163*
dumetorum Niessl, Leptosphaeria, 183
duplex (Fr.) Sacc., Leptosphaeria, 183
Duriaei Mont. & Berk., Myriangium, 207
Dyschirii Thaxt., Misgomyces, 132

eburnea (Tul.) Sacc., Massarina, 178
echinella (Cooke) Thüm., Leptosphaeria, 183
echinophila (Schw.) Trav., Guignardia, 145
echinulatum (Berk.) Cooke, Heterosporium, 165
effusum Nits., Hypoxylon, 152
elaeostroma Berl. & Vogl., Diaporthe, 167
elatum Fr., Chaetomium, 149
elatum Grev., Lophium, 210
elegans Picard, Helodiomyces, 132
Eleocharidis, *see* Heleocharidis
Eleutheromyces Fuckel, *197*
elevata (Berk.) Sacc., Cryptovalsa, 138
ellipsosperma Sow., Sphaeria, *186*
Elodes A. L. Smith & Ramsb., Sphaerella, 171
elongata (Fr.) Grev., Cucurbitaria, *181*, 189
elongatum Berk. & Desm., Capnodium, 137
elongatum (Fr.) Corda, Hysterographium, 210
elongatum A. L. Smith, Melogramma, 187
Elsinoe Racib., 207
emperigonia (Auersw.) de Not., Lizonia, 174
Empetri (Fr.) Sacc., Didymosphaeria, 173
Empetri (Fr. p.p.) Sacc., Metasphaeria, 179
Enchnoa Fr., 139
Endiusae (Fuckel) Sacc., Leptosphaeria, *184*
Endodothella Theiss. & Syd., 206
Endomyces Reess, 132
endopteris Phill. & Plowr., Phomatospora, 146
Endothia Fr., 144
Endoxyla Fuckel, 150
enormis Grove, Didymosphaeria, 173
enteroleuca (Curr.) Sacc., Diaporthe, 160
entomorrhiza (Fr.) Link, Cordyceps, 202
epicalamia (Riess) Ces. & de Not., Leptosphaeria, 183
epicarecta (Cooke) Sacc., Leptosphaeria, 183
Epichloe Tul., 203
Epicymatia Fuckel, 176
epicymatia (Wallr.) Wint., Pharcidia, *176*
epidermidis (Fr.) Fuckel, Didymosphaeria, 173
epigaea Cooke, Nectria, *196*
Epilobii "Cooke", Diaporthe, *164*
epimyces Fr., Sphaeria, *198*
epipolytropa (Mudd) Berl. & Vogl., Didymella, 165
episphaeria (Fr.) Fr., Nectria, *196*
episphaerium (Phill. & Plowr.) Sacc., Sphaeroderma, 201
epistroma Cooke, Sphaerella, 171
epitypha (Cooke) Theiss. & Syd., Septomazzantia, 207
Epochnii (B. & Br.) Sacc., Melanomma, 186
Equiseti A. L. Smith, Pleospora, 190
equorum Fuckel, Coprolepa, 150
Eremascus Eidam, 132
eres Nits., Diaporthe, 161
eres (B. & Br.) Ces. & de Not., Venturia, 172
ericophila Fr., Antennaria, 136
Eriosphaeria Sacc., 166
Erostrotheca Martin & Charles, *197*
errabunda (Rob.) Auersw., Gnomonia, 166
erraticum Massal., Tichothecium, 175
erubescens (Rob.) Sacc., Calonectria, 195
Eryngii (Fr.) Oudem., Mycosphaerella, 169
Erysiphe Hedw. f. in DC., 135
erysiphina (B. & Br.) Cooke, Sphaerella, 171
erythrosporus (Riess) Wint., Ophiobolus, 194

erythrostoma (Fr.) Auersw., Gnomonia, 166
eucryptus (B. & Br.) Sacc., Ophiobolus, 194
Euhaplomyces Thaxt., 132
eumorpha (Dur. & Mont.) Maire, Diaporthe, 161
eunomia (Fr.) Fuckel, Cryptosphaeria, 138
eunomioides (Otth) Nits., Cladosphaeria, *138*
euomphala (Berk. & Curt.) Starb., Tympanopsis, 147
Euonymi Cooke, Cucurbitaria, 189
Euonymi Fuckel, Pleospora, 190
Euonymi (DC.) Sacc., Microsphaera, 135
Euphorbiae (Cooke) Cooke, Diaporthe, 161
Euphorbiae (Phill. & Plowr.) Sacc., Physalospora, 146
Euphorbiae (Cast.) Salm., Sphaerotheca, 135
eurotioides Sacc., Letendraea, *198*
Eurotium Link ex Fr., 134
Euryachora Fuckel, 206
eustegia (Cooke) Sacc., Pleospora, 191
eustoma (Fr.) Sacc., Leptosphaeria, *184*
eutypa Fr., Sphaeria, *139*
Eutypa Tul., 139
Eutypella (Nits.) Sacc., 140
eutypoides Sacc., Zignoella, 180
Euzodiomyces Thaxt., 132
exasperans Nits., Diaporthe, 161
excipuliforme (Fr.) Ces. & de Not., Lophiostoma, 204
exigua Wint., Diatrypella, 138
exilis (Fr.) Wint., Niesslia, 171
exosporioides (Desm.) Wint., Niesslia, 171
extensa (Fr.) Sacc., Diaporthe, 161

Fagi (Auersw.) Lindau, Mycosphaerella, 169
faginea (Curr.) Sacc., Diaporthe, 161
faginea (Fr.) Fr., Dichaena, 209
faginea (Cooke & Plowr.) Sacc., Laestadia, 146
fallax (Sacc.) Sacc., Zignoella, 180
farcta (B. & Br.) Sacc., Ditopella, 144
farinosa (B. & Br.) Petch, Protocrea, 201
Farlowiella Sacc., 209
fasciculata Fr., Bombardia, 149
fasciculata Peyritsch, Laboulbenia, 132
favacea (Fr.) Ces. & de Not., Diatrypella, 138
felina (Fuckel) Cooke & Plowr., Lasiosphaeria, 177
Fenestella Tul., 189
fenestrans (Duby) Wint., Didymosphaeria, 173
fenestrata (B. & Br.) Schroet., Fenestella, 190
ferruginea (Fr.) Karst., Sillia, 195
fertilis Stoppel, Eremascus, 132
Festucae (Lib.) Sacc., Physalospora, 146
fibricola Plowr., Nectria, *200*
fibritectum (Berk.) Ces. & de Not., Lophiostoma, 204
fibrosa (Fr.) Nits., Diaporthe, 161
Fieberi Corda, Chaetomium, *149*
filicinus (Fr.) Fuckel, Rhopographus, 206
filicum Phill., Mollisia, *169*
filicum (Desm.) Starb., Mycosphaerella, 169
filiformis (Fr.) Fr., Xylaria, 156
fimbriata (Fr.) Sacc., Gnomoniella, 145
fimbriata (Rostr.) Petch, Melanospora, 198
fimetaria de Not., Sporormia, 187
fimeti (Fr.) Sacc., Coprolepa, 150
fimicola (Rob.) Sacc., Hypocopra, 151
fimiseda Ces. & de Not., Sordaria, 156
flacca (Wallr.) Sacc., Gibberella, 197
flagellata Peyritsch, Laboulbenia, 132
flammea Tul., Sphaerostilbe, 201
flavida (Corda) Cooke, Lasionectria, 198
flavovirens (Fr.) Tul., Eutypa, 139
flavovirescens Hoffm., Sphaeria, *139*
flavoviridis Fuckel, Sphaerostilbe, 201
floccosa Fr., Hypocrea, *195*
fluens Shear & N. E. Stevens, Endothia, *144*
fluviatilis Phill. & Plowr., Sphaeria, *184*
foedans (Fr.) Fr., Massaria, 186
foliicola Fr., Hysterium, *211*
Footii Berk. & Desm., Capnodium, *137*
Forquignoni Quél., Cordyceps, 202
Fragariae (Tul.) Lindau, Mycosphaerella, 169
fragiformis Fr., Sphaeria, *152*
Frangulae ([Pers.]) Cooke, Diatrype, *164*
Frangulae (Fuckel) Theiss. & Syd., Systremma, 207
fraxinea Wither., Sphaeria, *150*
Fraxini (Fr.) de Not., Hysterographium, 210
fraxinicola Curr., Sphaeria, *178*
Friesii Nits., Melomastia, *178*

fructigenum Berk., Gloeosporium, *144*
fruticum (Rob. & Desm.) Sacc., Ophiobolus, 194
fucicola Sutherl., Didymosphaeria, 173
fucicola Sutherl., Lulworthia, 178
Fuckelii Niessl, Leptosphaeria, 183
"Fuckelii Nits.", Nitschkia, 140
Fuckelii Nits., Valsa, 142
fulcita (Bucknall) Sacc., Neopeckia, 174
fulgens (Fr.) Karst., Hypomyces, 198
fuliginea Koerb., Naetrocymbe, *186*
fuliginosa Sow., Sphaeria, *139*
fulva Olliver & G. Smith, Byssochlamys, 132
fulva Fr., Sphaeria, *201*
fulvescens (Cooke) Cooke, Eurotium, 134
fulvum (Fr.) Chev., Polystigma, 204
fungicola Karst., Hypocrea, *203*
funicola Cooke, Chaetomium, 150
funicola (B. & Br.) Petch, Nectriella, 200
funiculatum Preuss, Perisporium, 136
furcatus Thaxt., Rhachomyces, 132
furciferus Thaxt., Dichomyces, 131
furfuracea (Fr.) Sacc., Diaporthe, 161
furfurella (B. & Br.) Petch, Pseudonectria, 201
fusca Bucknall, Pseudovalsa, 187
fuscella (B. & Br.) Ces. & de Not., Leptosphaeria, 183
fuscidula (Cooke) Berl. & Vogl., Diaporthe, 161
fuscidulum Sacc., Melanomma, 186
fuscopurpurea Wakef., Nectria, *199*
fuscum (Fr.) Fr., Hypoxylon, 152
fusispora (de Not.) Cooke, Physalospora, *144*
fusisporum Fr., Melogramma, *187*
fusisporum (Cooke) Sacc., Mytilidion, *211*
fusisporum Petch, Sphaeroderma, 201
futilis (B. & Br.) Rehm, Didymosphaeria, 174

Galeopsidis DC., Erysiphe, 135
Galiorum Sacc., Leptosphaeria, 183
galligena Bres., Nectria, 199
Garryae Grove, Diaporthe, 161
gastrinoides (Phill. & Plowr.) Sacc., Anthostoma, 148
gastrinum (Fr.) Sacc., Anthostoma, 148
Gelasinospora Dowding, 151
gelatinosa (Fr.) Seaver, Chromocrea, 202
gelidarium (Mudd) Berl. & Vogl., Tichothecium, 175
gemmiferum (Tayl.) Koerb., Tichothecium, 175
gemmigenum Fuckel, Mytilidion, 211
"Genistae Wint., Dothidea", 205
Geranii (Fr.) Fr., Stigmatea, 208
germanica Nits., Valsa, 142
Gibbera Fr., 166
Gibberella Sacc., 197
Gibberidea Fuckel, *193*
Gibellina Pass., 174
Gibsonia Massee, *197*
gigantea Massee & Crossl., Melanospora, *199*
gigas Phill. & Plowr., Nummularia, 153
gigaspora Desm., Sphaeria, *186*
glabrum B. & Br., Chaetomium, *133*, 150
glaucopunctata Grev., Cryptosphaeria, *185*
glaucus Link, Aspergillus, *134*
glis Berk. & Curr., Sphaeria, *139*
globosa Massee & Salm., Sordaria, 156
globosum Fr., Chaetomium, 150
gloeospora (Berk. & Curr.) Sacc., Leptosphaeria, 183
glomerata Cooke, Venturia, 172
Glomerella von Schrenk & Spaulding, 144
Gloniopsis de Not., 209
Glonium Mühlenb. ex Fr., 209
glyptica (Berk. & Curr.) Sacc., Diaporthe, 161
gnomon Tode, Sphaeria, *145*
Gnomonia Ces. & de Not., 166
Gnomoniella Sacc., 144
Godini Desm., Sphaeria, *182*
gracile Sacc., Heterosporium, *166*
gracilipes Tul., Sphaerostilbe, *201*
gracilis (Grev.) Dur. & Mont., Cordyceps, 202
graminea Ito & Kurib., Pyrenophora, *192*
gramineum (Fr.) Chev., Lophodermium, 210
gramineum Bomm. Rouss. & Sacc., Microthyrium, 208
graminicola (B. & Br.?) Wollenw., Calonectria, 195
graminicola (B. & Br.) Cooke, Dialonectria, 196
graminis (Fuckel) Sacc., Dilophia, 193
graminis DC., Erysiphe, 135
graminis (Fuckel) Sacc., Leptosphaeria, 183
graminis Sacc., Ophiobolus, 194
graminis (Fr.) Fuckel, Phyllachora, 206

graminum Lib., Acrospermum, 208
Graphis Fuckel, Gnomonia, 166
gregaria (Lib.) Fuckel, Coronophora, 137
gregaria Sacc., Physalospora, 146, *147*
Griphosphaeria von Höhnel, *179*
grisea B. &. Br., Bolacotricha, *133*
griseum Cooke, Chaetomium, 150
Grossulariae (Wallr.) Lév., Microsphaera, 135
Groveana (Sacc.) Theiss. & Syd., Scirrhiachora, 207
Guignardia Viala & Rav., 145
Gymnoascus Baran., 133
Gymnocladi Bagnis, Pleospora, 191
Gyrinidarum Thaxt., Laboulbenia, 132
gyrosa (Schw.) Fuckel, Endothia, *144*

haematites (Rob.) Niessl, Leptosphaeria, 183
halimus Diehl & Mounce, Ophiobolus, 194
hapalocystis (B. & Br.) Sacc., Pseudovalsa, 187
Haplomyces Thaxt., 132
Hederae Wehmeyer, Diaporthe, 161
Hederae de Not., Hypoderma, 209
Hederae (Fuckel) Sacc., Lophiotrema, 205
Hederae (Fr.) Sacc., Metasphaeria, 179
hedericola (Desm.) Lindau, Mycosphaerella, 169
Helenae Currey, Sphaeria, *182*
Heleocharidis Grove, Myiocopron, 208
helicicola (Desm.) Sacc., Metasphaeria, 179
helicoma (Phill. & Plowr.) Cooke & Plowr., Lasiosphaeria, 177
helicosporus (B. & Br.) Sacc., Ophiobolus, 194
helminthicola (B. & Br.) Weese, Letendraea, 198
Helminthosphaeria Fuckel, 151
helminthosporus (Rehm) Berl., Acanthophiobolus, 193
Helodiomyces Picard, 132
Helvellae (Cooke) Sacc., Melanospora, *198*
hemitapha (B. & Br.) Sacc., Kalmusia, 181
hepaticola Watson, Pleospora, 191
Heraclei (Fr.) Fuckel, Phyllachora, 206
herbariorum Fr., Eurotium, 134
herbarum (Pers.) Link ex Fr., Cladosporium, *170*
herbarum Sow., Clavaria, *208*
herbarum (Fr.) Rabenh., Pleospora, 191
herbicola A. L. Smith, Gnomonia, 166
Hercospora Tul., 167
Herpotrichia Fuckel, 176
herpotrichus (Fr.) Sacc., Ophiobolus, 194
heteracantha (Sacc.) Berl., Peroneutypa, 140
heterospora (de Not.) Niessl, Leptosphaeria, 183
Hieracii Cooke & Massee, Sphaerella, 171
Hillia Cooke, *195*
Hippocastani (Cooke) Berl. & Vogl., Diaporthe, *158*
Hippophaës Bomm. Rouss. & Sacc., Diaporthe, 161
hippotrichoides Fr., Thamnomyces, 156
hirsuta (Fr.) Ces. & de Not., Lasiosphaeria, 177
hirta Hansen, Sordaria, 156
hirta (Blox.) Petch, Trichonectria, 202
hispida (Fr.) Fuckel, Lasiosphaeria, 177
Hoffmanni Tul., Stictosphaeria, *138*
Hoffmanni Nits., Valsa, 142
holoschista (B. & Br.) Sacc., Pleomassaria, 190
homalea (Fr.) Sacc., Cucurbitaria, 189
Homalotae Thaxt., Monoicomyces, 132
Homostegia Fuckel, 206
horrida Nits., Valsa, 142
Howeianum Peck, Hypoxylon, 152
hranicensis (Petrak) Wehmeyer, Cryptodiaporthe, 158
Hulseboschii Oudem., Sphaeroderma, 201
humana Fuckel, Hypocopra, 151
Humuli (DC.) Burr., Sphaerotheca, 135
hyalospora (Ell. & Everh.) Berl., Pleosphaerulina, 190
hybridus Thaxt., Dichomyces, 132
hydnoidea (Fr.) von Höhnel, Eutypa, 139
hydrophila Karst., Pleospora, 191
Hyperici (Phill. & Plowr.) Sacc., Clypeosphaeria, 181
hyperopta (Nits.) Wehmeyer, Melanconis, 167
hyphenis (Cooke) Sacc., Didymella, 165
Hyphonectria (Sacc.) Petch, 197
Hypocopra Fuckel, 151
Hypocrea Fr., 203
Hypocreopsis Karst., 203
Hypoderma DC. ex de Not., 209
Hypodermella Tubeuf, 210
hypodermia (Fr.) Sacc., Cryptosporella, *141*, 144

Hypomyces (Fr.) Tul., 197
Hyponectria (Sacc.) Petch, 198
hyporrhodia Sacc., Didymella, 165
Hypospila Fr., 177
hypotephra (B. & Br.) Sacc., Kalmusia, 181
Hypoxylon Bull. ex Fr., 151
Hypoxylon (Fr.) Grev., Xylaria, 157
hysterioides Fr., Actidium, 209
hysterioides ([Pers.]) Sacc., Lophodermium, 210
hysterioides Cooke, Lophiostoma, *205*
hysterioides (Cooke) Sacc., Zignoella, 180
Hysterium Tode ex Fr., 210
Hysterographium Corda, 210
hystrix (Fr.) Petrak, Cryptodiaporthe, *140*, 158

idaeina (Haszl.) Ramsb., Mycosphaerella, 169
Idiomyces Thaxt., 132
ilicifolia (Cooke) Wint., Niesslia, 171
ilicina Cooke, Diaporthe, 161
ilicinum de Not., Hypoderma, 209
ilicinum de Not., Microthyrium, 208
Ilicis (Schleich.) Sacc., Physalospora, 146
immersa Sow., Sphaeria, *139*
immersus Trail, Ophiobolus, 194
immunda (Fuckel) Sacc., Hypospila, 177
importata Nits., Diaporthe, 161
impulsa (Cooke & Peck) Sacc., Diaporthe, 161
inaequalis (Curr.) Nits., Diaporthe, 161
inaequalis Thaxt., Dichomyces, 132
inaequalis Grove, Eriosphaeria, 166
inaequalis (Cooke) Wint., Venturia, 172
inaurata B. & Br., Nectria, *199*
incarcerata (B. & Br.) Nits., Diaporthe, 161
inclinata (Desm.) Auersw., Gnomonia, 166
inclusa (B. & Br.) Clem. & Shear, Battarina, 195
incrustans Nits., Diaporthe, 161
indicum Corda, Chaetomium, 150
infectoria Fuckel, Pleospora, 191
infernalis (Kunze ex Fr.) Fuckel, Enchnoa, 139
Innesii (Curr.) Sacc., Calospora, *176*
innumera (B. & Br.) Tul., Chaetosphaeria, 181
innumerella (Karst.) Starb., Mycosphaerella, 169
inquilina (Fr.) Nits., Diaporthe, 161
inquinans (Fr.) Fr., Massaria, 186
insculpta (Fr.) Sacc., Vialaea, 172
insidiosum (Desm.) Ces. & de Not., Lophiostoma, 204
insigne Wint., Eurotium, 134
insignis Mouton, Delitschia, 173
insignis Fuckel, Diaporthe, 161
insitiva Ces. & de Not., Valsaria, 175
integra Cooke, Venturia, 172
intermedia Sacc., Diaporthe, 161
intermedia Auersw., Sporormia, 188
intermedius (Berl.) Grove, Ophiobolus, 194
intermixta (B. & Br.) Sacc., Sphaerulina, 180
intexta (Curr.) Sacc., Cryptospora, 193
inventa Pethybr., Nectria, 200
investans (Cooke) Sacc., Eriosphaeria, 166
Irene Theiss. & Syd., 136
Iridis (Desm.) von Höhnel, Didymellina, 165, *169*
Iridis (Cooke) Berl. & Vogl., Laestadia, 146
irregularis Sow., Sphaeria, *148*
isariophora (Desm.) Johanson, Mycosphaerella, 169
Isothea Fr., 193
italicum Sacc. & Speg., Anthostoma, 148
italicus Speg., Cantharomyces, 131

Jenynsii (B. & Br.) Sacc., Melanomma, 186
Jerdoni B. & Br., Sphaeria, *205*
Johnstoni (B. & Br.) Sacc., Venturia, 172
juglandina (Fuckel) Nits., Diaporthe, 162
Junci Adams, Claviceps, *202*
Junci (Fr.) Theiss. & Syd., Endodothella, 206
Junci Pass. & Beltr., Pleospora, 191
juncigina Cooke, Pleospora, 191
juncina (Auersw.) Sacc., Leptosphaeria, 184
Juniperi Phill. & Plowr., Capnodium, 137
juniperinum (Cooke) Sacc., Asteridium, 136
juniperinum Grove, Clypeolum, 208
juniperinum (Fr.) de Not., Lophodermium, 210

Kalmusia Niessl, 181
Karstenula Speg., 190
Keithii B. & Br., Nectria, *200*
Keithii (B. & Br.) Sacc., Herpotrichia, 176

Kriegeri Rehm, Cephalotheca, 134
Kunzeanum Zopf, Chaetomium, 150
Kunzei (Fr.) Fr., Valsa, 142
Kunzei Sacc., Venturia, *158*

Labiatae (Cooke) Cooke, Diaporthe, 162
Laboulbenia Mont. & Rob., 132
Laburni (Fr.) de Not., Cucurbitaria, 189
lactea (Fr.) Fr., Hypocrea, *203*
Laestadia Auersw., 146
laevigata Corda, Antennaria, 136
laeviusculum (Karst.) Sacc., Mytilidion, 211
lagenaria (Fr.) Fuckel, Melanospora, 199
lageniforme Corda, Chaetomium, 150
lageniformis (Sollm.) Curr., Valsa, *142*
lagopina Bres., Sporormia, 188
Laminariae Sutherl., Hypoderma, 210
Laminariae Sutherl., Ophiobolus, 194
laminariana Sutherl., Pleospora, 191
laminariana Sutherl., Rosellinia, 154
lampadophora (B. & Br.) Niessl, Ceratosphaeria, 176
Lamyii (Desm.) Sacc., Pleonectria, 201
lanata (Fr.) Fr., Enchnoa, 139
lancastriensis Grove, Cesatiella, 196
lanciformis (Fr.) Ces. & de Not., Pseudovalsa, 187
lanuginosa (Preuss) Sacc., Sordaria, *154*
Laschii Nits., Diaporthe, 162
Lasiobotrys Kunze ex Fr., 136
Lasionectria (Sacc.) Cooke, 198
Lasiosphaeria Ces. & de Not., 177
lata (Fr.) Tul., Eutypa, 139
latebrosa (Cooke) Schroet., Mycosphaerella, 169
lateritia (Fr.) Petch, Byssonectria, 195
lateritium Mont., Eurotium, 134
Lathrobii Thaxt., Euzodiomyces, 132
Laurocerasi Phill. & Plowr., Cucurbitaria, 189
Laurocerasi Tul., Valsa, 142
Lebiseyi (Desm.) Wehmeyer, Cryptodiaporthe, 158
lecanodes (Ces.) Petch, Lasionectria, 198
leguminum (Wallr.) Rabenh., Pleospora, 191
Leightoni (B. & Br.) Sacc., Sphaerulina, 180
Leightonii (B. & Br.) Sacc., Calonectria, *195*
leioplaca (Fr.) Cooke, Eutypa, 139
leiphaemia (Fr.) Sacc., Diaporthe, 162
leiphaemioides Berk. & Curt., Valsa, 142
Lemaneae (Cohn & Woron.) Sacc., Leptosphaeria, 184
lenta Fr., Hypocrea, *203*
Lentomita Niessl, 167
leporina Ell. & Ev., Poronia, 154
leporina Niessl, Sporormia, 188
leprosa (Fr.) Sacc., Eutypa, 139
leptogicola Cooke & Massee, Broomella, *176*
Leptosphaeria Ces. & de Not., 182
Leptosphaeriae (Niessl) Petch, Lasionectria, 198
Leptospora Rabenh., *178*
leptostyla (Fr.) Ces. & de Not., Gnomonia, 166
Lestevi Thaxt., Compsomyces, 131
Letendraea Sacc., 198
leucomelarium (Mudd) Berl. & Vogl., Tichothecium, 175
leucostoma (Fr.) Fr., Valsa, 142
leucotricha Corda, Melanospora, 199
leucotricha (Ell. & Ev.) Salm., Podosphaera, 135
Leycestriae Grove, Diaporthe, 162
lichenicola de Not., Bertia, 157
lichenoides (Fr.) Seaver, Hypocreopsis, 203
ligneola (B. & Br.) Sacc., Lentomita, *143*, 167
ligniaria (Grev.) Nits., Rosellinia, 154
lignicola (Cooke & Massee) Petrak & Syd., Rosellinia, 154
lignicola Fuckel, Sordaria, 156
lignicola Phill. & Plowr., Sporormia, 188
Ligustri (Rob.) Lindau, Mycosphaerella, 169
Ligustri (Schw.) Schroet., Valsa, *142*
lineare (Fr.) de Not., Glonium, 209
lineatum A. L. Smith & Ramsb., Lophodermium, 210
lineolata (Rob. & Desm.) Schroet., Mycosphaerella, 169
Linkii Tul., Hypomyces, *198*
Linospora Fuckel, 193
lirella (Fr.) Nits., Diaporthe, 162
littoralis Sacc., Leptosphaeria, 184
lividum (Fr.) Sacc., Thyridium, 193
Lizonia Ces. & de Not., 174
longa Sow., Sphaeria, *183*
longicolle Sacc., Melanomma, 186
longicollis Massee & Salm., Spumatoria, 171
longipes (Tul.) Sacc., Pseudovalsa, 187
longipes Massee & Salm., Sporormia, 188

longipes Nits., Xylaria, 157
longirostris (Tul.) Sacc., Diaporthe, *158*
longispora (Phill. & Plowr.) von Höhnel, Rhynchonectria, 201
Lonicerae Fr., Lasiobotrys, 136
Lonicerae Grove, Physalospora, 146
Lonicerae Sow., Sphaeria, *178*
Lophidium Sacc., 204
Lophiella Sacc., 204
Lophiosphaera Trev., 204
Lophiostoma (Fr.) Ces. & de Not., 204
Lophiotrema Sacc., 205
Lophium Fr., 210
Lophodermium Chev., 210
lucina Sacc., Leptosphaeria, 184
ludibunda (Sacc.) Sacc., Eutypa, 140
lugubris (Rob.) Sacc., Anthostomella, 148
lugubris (Karst.) Sacc. Gnomoniella, 145
Lulworthia Sutherland, 178
lunaria (Cooke) Sacc., Trematosphaeria, 188
Lunariae (B. & Br.) Sacc., Leptosphaeria, 184
lutea (Fr.) Petch, Hypocrea, 203
lutea (Fr.) Nits., Nummularia, 153
luteovirens Tul., Hypomyces, *195*, *197*
Lycii (Haszl.) Sacc., Fenestella, 190
Lycopersici Klebahn, Didymella, 165

macrasca Sacc., Zignoella, 180
macrospora Kleb., Didymellina, *166*
macrospora (Desm.) Sacc., Massaria, 186
macrospora Auersw., Sordaria, 156
macrosporum (Hartig) Rehm, Lophodermium, 211
macrostoma (Fr.) de Not., Lophiostoma, 204
macrotricha (B. & Br.) Sacc., Herpotrichia, 177
maculans (Desm.) Ces. & de Not., Leptosphaeria, 184
maculans Sow., Sphaeria, *185*
maculare B. & Br., Aulographum, 209
maculare (Fr.) de Not., Lophodermium, 211
macularis (Fr.) Trav., Phaeosphaerella, 175
maculiformis (Bonord.) Mig., Guignardia, 145
maculiformis (Fr.) Schroet., Mycosphaerella, 169
maculiformis (Desm.) Wint., Venturia, 172
Magnusia Sacc., 134
Magnusiana Rehm, Nectria, 200
Mahoniae Speg., Diaporthe, 162
majusculum Cooke, Hypoxylon, *152*
malacotricha (Auersw.) Niessl, Rosellinia, 154
Malbranchei Sacc., Diaporthe, 162
Malorum, Sphaeropsis, *147*
mamillana (Fr.) Lambotte, Clypeosphaeria, 181
mammiformis (Fr.) Ces. & de Not., Rosellinia, 154
mammoidea Phill. & Plowr., Nectria, 200
"mammoidea Cooke", Rosellinia, *154*
Marchaliana Mouton, Sporormia, 188
Marchalii Berl. & Vogl., Delitschia, 173
marginatum (Schw.) Berk., Hypoxylon, *153*
marina (Rostr.) Lind, Didymosphaeria, *182*
maritima (Cooke & Plowr.) Sacc., Leptosphaeria, 184
marram (Cooke) Sacc., Leptosphaeria, 184
Masoni Kirschst., Ceratostoma, 149
Massaria de Not., 185
Massariella Speg., 174
Massarina Sacc., 178
mastoidea (Fr.) Schroet., Melomastia, 178
mastoidea Sacc., Rosellinia, 154
maura (Fr.) Sacc., Eutypa, 140
Mawlei Westwood, Cordyceps, *202*
maxima (Niessl) Sacc., Hypocopra, 151
Medicaginis (Fuckel) Sacc., Leptosphaeria, *191*
medium Sacc. & Speg., Melanomma, 186
medusaea Nits., Diaporthe, 162
megalospora Auersw., Sporormia, 188
megalospora (de Not.) Sacc., Trematosphaeria, 188
melaleucum (Fr.) de Not., Lophodermium, 211
Melanconiella Sacc., 174
Melanconis Tul., 167
Melanomma Nits. ex Fuckel, 186
Melanops Nits. in Fuckel, 143
melanops (Tul.) Wint., Botryosphaeria, 143
Melanopsamma Niessl, 167
Melanopsammella von Höhnel, *166*
Melanospora Corda, 198
melanotes (B. & Br.) Sacc., Anthostoma, 148
melanurus Peyritsch, Chitonomyces, 131
Meliloti Rabenh., Pleospora, 191

melina (B. & Br.) Sacc., Trematosphaeria, 188
Meliola Fr., 136
Melogramma Tul., 187
melogramma Pers., Sphaeria, *187*
Melomastia Nits. in Fuckel, 178
membranacea (B. & Br.) Sacc., Eriosphaeria, 166
merdaria (Fr.) Fuckel, Coprolepa, 150
Metasphaeria Sacc., 178
Michotii (Westend.) Sacc., Leptosphaeria, 184
Microascus Zukal, 134
microcephala (Wallr.) Tul., Claviceps, *202*
Microeurotium Ghatak, 134
microscopica Karst., Leptosphaeria, 184
microscopicum Desm., Microthyrium, 208
Microsphaera Lév., 135
microspila (B. & Br.) Lind, Mycosphaerella, 169
microspora (Cooke & Plowr.) Sacc., Eutypella, 140
microspora (Phill. & Plowr.) Sacc., Hypocopra, 151
microspora Plowr., Sporormia, 188
microsporum Massee & Salm., Eurotium, 134
microstictica (Leighton) Wint., Didymosphaeria, 174
microstoma Niessl, Lophiostoma, 204
microstoma (Fr.) Fr., Valsa, 142
Microthyrium Desm., 208
Microxyphium (Sacc.) Speg., *137*
miliarius Tul., Hypomyces, *198*
militaris (Fr.) Link, Cordyceps, 202
millegrana (Cooke) Schroet., Mycosphaerella, 169
millepunctata Grev., Cryptosphaeria, *138*
miniatum Cooke, Hypoxylon, *152*
minima Tul., Calosphaeria, 137
minima Sacc. & Speg., Sordaria, 156
minima Auersw., Sporormia, 188
minima (Fuckel) Wint., Trichosphaeria, *147*
minor Tul. Fenestella, 190
minuta Fuckel, Delitschia, 173
minuta Fuckel, Sordaria, 156
minutella Cooke & Plowr., Sordaria, *173*
minutissima Grove, Calonectria, 195
Misgomyces Thaxt., 132
Miyabeana Fukushi, Physalospora, 146
modesta (Desm.) Karst., Leptosphaeria, 184
modonia Tul., Melanconis, 167
Monascus van Teigh., 132
Monoicomyces Thaxt., 132
Montagnei Sacc., Apiospora, 205
montellicum Sacc., Schizostoma, 205
moravica Niessl, Delitschia, 173
moricola (de Not.) Sacc., Gibberella, 197
moriformis (Fr.) de Not., Bertia, 157
moriformis Cooke & Massee, Hypocrea, *202*
moroides (Curr.) Sacc., Rosellinia, 155
mors-uvae (Schw.) Berk. & Curt., Sphaerotheca, 136
Mougeotii Lév., Microsphaera, 135
Muellerella Hepp, 153
Muelleri (Duby) Sacc., Gloniopsis, 209
Mulleriana Cooke, Valsa, 142
multiceps Sow., Sphaeria, *139*
multiforme (Fr.) Fr., Hypoxylon, 152
multiformis Martin & Charles, Erostrotheca, *197*
murorum Corda, Chaetomium, *133*, 150
muscivora (B. & Br.) Petch, Hyphonectria, 197
mutabilis (Fr.) Fuckel, Lasiosphaeria, 177
mutila N. E. Stevens, Physalospora, 147
Mycosphaerella Johans., 168
Myiocopron Speg., 208
myriadea (Fr.) Sacc., Sphaerulina, 180
Myriangium Mont. & Berk., 207
Myricae Grove, Anthostomella, 148
myriocarpa (Fr.) Petrak & Syd., Trichosphaeria, 147
myrmecophila Ces., Cordyceps, *202*
Myrtilli Cooke, Venturia, 172
Mytilidion Duby, 211
mytilinum Fr., Lophium, 210
Myxotrichum Kunze ex Fr., 133

Nardi (Fr.) Ces. & de Not., Leptosphaeria, 184
natans (Fr.) Theiss. & Syd., Systremma 207
naucosa (Fr.) Fuckel, Cucurbitaria, 185
Naumovia Dobrozr., 193
Nebriae Peyritsch, Laboulbenia, 132
necator (Schw.) Burr., Uncinula, 136
necatrix Prill., Rosellinia, 155
Nectria Fr., 199
Nectriella Nits. in Fuckel, 200
Nectriopsis Maire, 200
nectroides Speg., Leptosphaeria, 184
Needhami Massee & Crossl., Gnomoni 166
Neesii Duby, Lophodermium, 211

neglecta (Cooke) Berl. & Vogl., Diaporthe, 162
neglecta Hansen, Sordaria, 156
Nemania S. F. Gray, *156*
Neocosmospora E. F. Smith, *200*
Neohenningsia Koorders, 200
Neopeckia Sacc., 174
neottizans (Leighton) A. L. Smith, Didymosphaeria, 174
Neurospora Shear & Dodge, 153
Nicholsoni Massee & Salm., Pleuroascus, 134
Nicholsoni Cooke, Stigmatea, 208
nidicola Massee & Salm., Microascus, 134
nidulans Niessl, Diaporthe, *157*
Niessleana Rabenh., Leptosphaeria, 184
Niessleana Wint., Meliola, 136
Niesslia Auersw., 171
Niesslii Sacc., Diaporthe, 162
nigerrima (Curr.) Sacc., Berlesiella, 189
nigra Hartig, Herpotrichia, 177
nigrans (Desm.) Ces. & de Not., Leptosphaeria, 184
nigrella (Fr.) Sacc., Didymella, 165
nigrella (Rabenh.) Sacc., Leptosphaeria, *184*
nigricans Tul., Claviceps, 202
nigrificans Sacc., Ophiobolus, 194
nigro-annulata (Grev.) Nits., Diatrypella, 139
nigrofactae Cooke, Sphaeria, *194*
nigropurpurea Ell. & Everh., Sporormia, 188
nitida Grev., Cryptosphaeria, *208*
nitida Sacc., Magnusia, 134
nitidus Massee & Salm., Arachnomyces, 134
Nitschkei Fuckel, Cryptovalsa, *138*
Nitschkia Otth in Fuckel ex Ellis & Everh., 140
nivea Sow., Sphaeria, *177*
nivea (Fr.) Fr., Valsa, 142, *143*
nobilis Sacc. & Speg., Diaporthe, 162
norfolcia (Cooke) Sacc., Leptosphaeria, 184
Notarisii Sacc., Ceratostoma, 149
Notarisii Fuckel, Clypeosphaeria, 181
Notarisii Caresti, Sporormia, 188
nucleata (Curr.) Cooke, Diaporthe, 162
nucula (Fr.) Sacc., Lophiotrema, 205
Nummularia Tul., 153
nummularia DC., Sphaeria, *153*

obducens Wint., Ohleria, 187
obducens (Fr.) Fuckel, Teichospora, 193
Obiones (Crouan) Sacc., Leptosphaeria, 184
obliterans (B. & Br.) Sacc., Melanomma, 186
oblitescens (B. & Br.) Sacc., Didymosphaeria, 174
oblivia Cooke, Sphaerella, 171
obscurans Sacc., Diaporthe, 162
obsoleta Sacc., Diaporthe, 162
obtecta Curr., Sphaeria, *173*
obtusa (Schw.) Cooke, Physalospora, 147
occulta (Fuckel) Nits., Diaporthe, 162
ocellata (Fr.) Ces. & de Not., Cryptosphaeria, 138
ocellata (Niessl) Sacc., Metasphaeria, 179
ochracea Grev. & Fr., Sphaeria, *199*
ochraceopallida (B. & Br.) Sacc., Calonectria, 196
ochraceum B. & Br., Myxotrichum, 133
ochraceum (Wahlenb.) Sacc., Polystigma, *204*
ochraceus ([Pers.]) Tul., Hypomyces, 198
ochroleuca (Schw.) Berk., Nectria, 200
octomera Auersw., Sporormia, 188
octophragmia Trav. & Frag., Leptosphaeria, 184
oedema (Fr.) Schroet., Mycosphaerella, 169
Ogilviensis (B. & Br.) Ces. & de Not., Leptosphaeria, 184
Ohleria Fuckel, 187
oligosporum B. & Br., Melogramma, *186*
olivaestroma Cooke, Valsa, *167*
oncostoma (Duby) Fuckel, Diaporthe, 162
Oomyces Berk. & Br., 203
operculata (Fr.) Fuckel, Endoxyla, 150
Ophiobolus Riess, 193
Ophioceras Sacc., 195
Ophiocordyceps Petch, 203
ophioglossoides (Fr.) Link, Cordyceps, 202
Ophionectria Sacc., 201
Ophiostoma Syd., 146
Ophiostomella Petrak, 153
ophites Sacc., Diaporthe, 162
Orbicula Cooke, 137
Orcadia Sutherland, 201
ordinata (Fr.) Kirschst., Ceratosphaeria, 176
ornata Massee & Salm., Nectria, *200*
Orobanches Berl., Diaporthe, 162
orthoceras (Fr.) Nits., Diaporthe, 162

ostioloidea (Cooke) Sacc., Zignoella, *147*
Ostreion Duby emend. Sacc., 211
Ostruthii (Fr.) Oudem., Stigmatea, 208
Otthia Nits. in Fuckel, 174
ovina (Fr.) Ces. & de Not., Lasiosphaeria, 177
ovina (Desm.) Sacc., Sporormia, 188
ovoidea (Fr.) Sacc., Zignoella, *180*
Oxyacanthae (DC.) de Bary, Podosphaera, 135
Oxyacanthae Tul., Xylaria, 157
Oxycocci (Fr.) Karst., Lophodermium, 211
oxystoma Rehm, Valsa, 142

Padi Otth, Diaporthe, *162*
paecilostoma, *see* poecilostoma
paedida (B. & Br.) Sacc., Amphisphaeria, 173
pallidula Cooke, Nectria, 200
pallidus Thaxt., Rhadinomyces, 132
palustris (B. & Br.) Sacc., Didymosphaeria, 174
palustris Berl., Pleospora, 191
pannosa (Wallr.) Lév., Sphaerotheca, 136
pannosum Wallr., Chaetomium, 150
pantherina (Berk.) Wehmeyer, Diaporthopsis, 144
papaverea (B. & Br.) Ces. & de Not., Rosellinia, 155
paradoxa Wint., Trematosphaeria, 188
paradoxus (Peyritsch) Thaxt., Chitonomyces, 131
parallela (Fr.) Fuckel, Endoxyla, 150
parallela Sow., Sphaeria, *139*
Paranectria Sacc., 201
parasitica Tul., Melanospora, 199
parasitica (Loennr.) Arn., Phaeospora, *171*, *175*
parasiticum (Hartig) Sacc., Acanthostigma, 176
parasiticum Sacc., Graphiothecium, *166*
pardalota (Mont.) Nits., Diaporthe, 162
Parmeliarum (Phill. & Plowr.) Sacc., Leptosphaeria, 185
parmelioides Mont., Hypocrea, *203*
Parmularia (Berk.) Sacc., Valsaria, 175
pascua Niessl, Sporormia, 188
Pastinacae Rostr., Phyllachora, *206*
patria Speg., Diaporthe, 162
paucipilis (Cooke) Sacc., Lasiosphaeria, 178
pauperata Cooke & Ellis, Valsa, 143
pedicillata Thaxt., Laboulbenia, 132
pedunculata (Berk.) Fr., Xylaria, 157
pellita (Rabenh. & Klotz.) Sacc., Leptosphaeria, 185
Peltigerae Phill. & Plowr., Nectria, *200*
Pelvetiae Sutherl., Dothidella, 206
Pelvetiae Sutherl., Mycosphaerella, 169
Pelvetiae Sutherl., Pharcidia, 171
Pelvetiae Sutherl., Pleospora, 191
Pelvetiae Sutherl., Stigmatea, 208
pelvetiana Sutherl., Didymosphaeria, 174
pelvetiana Sutherl., Orcadia, 201
Pelvetii (Hepp) Lindsay, Homostegia, 206
pentamera Karst., Pleospora, 191
peregrina (Cooke) Lindau, Mycosphaerella, 169
perexigua Sacc., Diaporthe, 162
perexigua Curr., Sphaeria, *168*
perforatum Schw., Hypoxylon, *152*
perichaenioides (Cooke) Sacc., Anixia, 133
Periclymeni Pass., Laestadia, 146
Perisporium Fr., 136
Peristomialis Boud., *195*
peristomialis (B. & Br.) Petch, Actiniopsis, 195
perniciosa Marchal, Diaporthe, 163
perniciosus P. Magn., Hypomyces, *198*
Peroneutypa Berl., 140
perpusilla (Desm.) Trav., Guignardia, 145
perpusillum (Nyl.) Arnold, Tichothecium, 175
persistens (B. & Br.) Sacc., Metasphaeria, 179
personata Niessl, Leptosphaeria, 185
Persoonii Tul., Quaternaria, *141*
pertusa (Fr.) Fuckel, Trematosphaeria, 188
"petioli", Sphaeria, *166*
petiolicola (Fuckel) Karst, Gnomonia, 166
Peyritschiella Thaxt., 132
Peryritschii Thaxt., Idiomyces, 132
Peziza (Fr.) Cooke, Dialonectria, 196
phacidiomorpha (Ces.) Petr., Glomerella, 144
phaeocomes (Fr.) Fr., Pyrenophora, 192
phaeocomoides Sacc., Pyrenophora, 192
Phaeosphaerella Karst., 175
phaeospora Massee, Gibsonia, *197*
phaeosticta (Berk.) Sacc., Anthostomella, 148
phaeostroma (Dur. & Mont.) Fuckel, Chaetosphaeria, 181

Pharcidia Körb., 171
Phillyreae Cooke, Diaporthe, 163
Philocopra Speg., 153
philonthinus Thaxt., Rhacomyces, 132
Phoma Fr., *177*
Phomatospora Sacc., 146
phomatospora B. & Br., Sphaeria, *146*
Phormii Grove, Leptosphaeria, 185
Phormii Schroet., Physalospora, *144*
Phyllachora Nits. in Fuckel, 206
Phyllactinia Lév., 135
Physalospora Niessl, 146
Piceae Borthwick, Cucurbitaria, 189
Piceae (Münch) Syd., Ophiostoma, 146
Piggotii (B. & Br.) Karst., Homostegia, 206
pileoferruginea Crouan, Chaetosphaeria, 181
piliferum (Fr.) Syd., Ophiostoma, 146
pilosa (Fr.) Fuckel, Trichosphaeria, 147
pinastri (Fr.) Chev., Lophodermium, 211
pinastri (Fr.) Lindau, Guignardia, 145
pinetorum (Fuckel) Wint., Herpotrichia, 177
Pini (Münch) Syd., Ophiostoma, 146
Pini (Fr.) Fr., Valsa, 143
pinicola Brunch., Hypoderma, 210
pinodes (Berk. & Blox.) Vestergr., Mycosphaerella, 169
pinophila Nees, Antennaria, *136*
pinophylla (Plowr. & Phill.) Sacc., Diaporthe, 163
pirina Aderh., Venturia, 172
Pisi (Fr.) Fuckel, Pleospora, 191
pistillariiformis B. & Br., Cordyceps, *203*
pithya Sacc., Diaporthe, 163
pithyophila (Fr.) de Not., Cucurbitaria, 189
placentula Grove, Hypocrea, 203
planiuscula (B. & Br.) Sacc., Didymella, 165
Plantaginis (Sollm.) Vestergr., Mycosphaerella, 170
platanigera (B. & Br.) Sacc., Cryptosporella, 144
platanoides ([Pers.]) Niessl, Calospora, 176
platasca (Berk.) Sacc., Calonectria, 196
platyspora (Phill. & Plowr.) Sacc., Hypocopra, 151
platyspora Sacc., Pleospora, 191
Platystethi Thaxt., Cantharomyces, 131
pleiospora (Wint.) Sacc., Philocopra, 153
Pleomassaria Speg., 190
Pleonectria Sacc., 201
Pleosphaerulina Pass., 190
Pleospora Rabenh., 190
Pleuroascus Massee & Salm., 134
Plowrightia Sacc., 206
Plowrightiana Sacc., Calonectria, *196*
Plowrightii (Niessl) Sacc., Anthostoma, 148
pluriannulatum (Hedgc.) Syd., Ophiostoma, 146
Podagrariae (Roth) Karst., Phyllachora, *207*
podoides Pers., Sphaeria, *187*
Podosphaera Kunze, 135
Podospora Ces., 154
Podostroma Karst., 204
poecilostoma (B. & Br.) Sacc., Zignoella, 180
Polyascomyces Thaxt., 132
Polygoni A. L. Smith & Ramsb., Cerioporella, 158
Polygoni DC., Erysiphe, 135
Polygonorum (Fr.) Fr., Stigmatea, 208
polymorpha (Fr.) Grev., Xylaria, 157
Polypodii (Fuckel) Oudem., Mycosphaerella, 170
polyspermum (Mont.) J. H. Miller, Camarops, 149
polyspora Hepp, Muellerella, 153
polyspora (Phill. & Plowr.) Sacc., Philocopra, 154
polyspora (Nits.) Sacc., Valsella, *143*
Polystigma DC. ex Chev., 204
pomi (Fr.) Wint., Venturia, *172*
pomiformis (Fr.) Sacc., Melanopsamma, 167
pomorum Horne, Pleospora, 191
pontiformis (Fuckel) Sacc., Leptosphaeria, 185
populina ([Pers.]) Schroet., Linospora, 193
populina (Fr.) Fuckel, Otthia, 174
populina Fuckel, Valsa, 143
Poronia Pers., Sphaeria, *154*
Poronia Willd. ex Fr., 154
porphyrogonus (Tode) Sacc., Ophiobolus, *194*
Potentillae (Fr.) Wint., Coleroa, 158
praemorsum (Lasch) Sacc., Lophiotrema, 205
praetermissa (Karst.) Sacc., Leptosphaeria, 185
Primulae (Auersw. & Heufl.) Schroet., Mycosphaerella, 170
princeps Tul., Calosphaeria, *137*
princeps Tul., Fenestella, *190*
princeps Berk., Perisporium, 136
profusa (Fr.) de Not., Aglaospora, 181
prorumpens (Wallr.) Sacc., Eutypa, 140

protea Thaxt., Peyritschiella, 132
Protocrea Petch, 201
protracta (Fr.) Ces. & de Not., Cryptovalsa, 138
protracta Nits., Diaporthe, 163
proximella (Karst.) Sacc., Didymella, 165
prunastri (Fr.) Sacc., Eutypella, 140
prunastri (DC.) Sacc., Uncinula, 136
Pruni Fuckel, Otthia, 174
Pseudonectria Seaver, 201
Pseudopeziza (Desm.) Sacc., Calonectria, 196
Pseudovalsa Ces. & de Not., 187
psoromoides (Borr.) Wint., Physalospora, 147
Pteridis Wint., Rhopographus, *206*
Pteridis (Desm.) Schroet., Mycosphaerella, 170
pulchella (Fr.) Schroet., Calosphaeria, 137
pulchella Curr., Sphaeria, *167*
pulchella Hansen, Sporormia, 188
pulchra (Curr.) Sacc., Diaporthe, 163
pulchra (Sacc.) Petrak, Schiffnerula, *136*
pulchra (Wint.) Sacc., Selinia, 204
pulchra Hansen, Sporormia, 188
pulicare Fr., Hysterium, 210
pulicaris (Fr.) Sacc., Gibberella, 197
pulla Nits., Diaporthe, 163
pullulans Bennett, Anthostomella, *143*, 148
pulposi Zopf, Didymosphaeria, 174
pulveracea (Sacc.) Sacc., Lophiosphaera, 204
pulveracea (Fr.) Fuckel, Rosellinia, 155
pulvinata Fuckel, Hypocrea, 203
pulviscula (Curr.) Sacc., Zignoella, 180
Pulvis-pyrius (Fr.) Fuckel, Melanomma, 186
punctata (Cooke) Berl. & Vogl., Diaporthe, *159*
punctata (Fr.) Fr., Poronia, 154
punctiformis (Fr.) Starb., Mycosphaerella, *145*, 170
punctoidea (Cooke) Schroet., Guignardia, 145
punctulata (Rob. & Desm.) Sacc., Anthostomella, 149
punicea (Fr.) Fr., Nectria, 200
pupula (Fr.) Tul., Massaria, 186
purpurea (Shear) Chesters, Cephalotheca, 134
purpurea (Fr.) Tul., Claviceps, 202
purpurea Rehm, Leptosphaeria, 185
purpureus Went, Monascus, 132
purpureus Thaxt., Stigmatomyces, 132
Purtoni (Grev.) Cooke, Nectria, *196*
pusilla (Wahlenb.) Karst., Calosphaeria, *137*
pusilla Mouton, Philocopra, 154
pusilla Curr., Sphaeria, *180*
pustula (Fr.) Karst., Hypospila, 177
pustula (Curr.) Sacc., Melanopsamma, 168
pustulata (Desm.) Sacc., Diaporthe, 163
pustulata Auersw., Valsa, *148*
putator Nits., Diaporthe, 163
pygmaeum Koerb., Tichothecium, *173*, 175
Pyrenophora Fr., 192
pyrenophora (Fr.) Fr., Dothiora, 207
pyricola Desm., Septoria, *170*
pyriostictum Cooke, Melanomma, 186
pyrrhocystis (B. & Br.) Wehmeyer, Cryptodiaporthe, 158

quadrinucleata (Curr.) Stevenson, Diaporthe, 163
quadrinucleatum Karst., Lophiostoma, 205
Quaternaria Tul., 141
quaternata (Fr.) Schroet., Quaternaria, 141
quercina (Fr.) Cooke, Diatrypella, 139
quercina (Fr.) Fr., Dichaena, 209
quercina Fr., Hypospila, *177*
quercina Hartig, Rosellinia, 155
"quercina, Sphaeria", *187*
Quercus Fuckel, Diaporthe, 163
querna (Curr.) B. & Br., Valsa, 143
Questieri Desm., Coniothecium, *136*

Rabenhorstii B. & Br., Sphaeria, *193*
racodium, *see* rhacodium
radicalis (Schw.) Ces. & de Not., Endothia, 144
Ralfsii B. & Br., Nectria, 200
Ranunculi Fr., Stigmatea, 208
Rebentischia Karst., 187
recutita (Fr.) Sacc., Metasphaeria, 179
Reessii Baran., Gymnoascus, 133
refracta (Cooke) Sacc., Didymella, 165
Rehmiana Jaap, Sphaerulina, *180*
Rehmiellopsis Bubák & Kabat, 171
remuliformis A. L. Smith, Boydia, 158
reniformis Sacc. & Therry, Cephalotheca, 134
repanda (Duby) Sacc., Farlowiella, 209
repens de Bary, Eurotium, 134
reptans Sow., Sphaeria, *149*
resecans Nits., Diaporthe, 163
retecta Fuckel & Nits., Diaporthe, 163

revelata B. & Br., Sphaeria, *178*
revellans Nits., Diaporthe, 163
rhacodium (Fr.) Ces. & de Not., Lasiosphaeria, 178
Rhachomyces Thaxt., 132
Rhadinomyces Thaxt., 132
Rhagadostoma Körb., *157*
Rhamni (Cooke) Berl. & Vogl., Bagnisiella, 207
Rhamni (Fr.) Fuckel, Cucurbitaria, 189
Rhamphoria Niessl, 193
rhenana (Auersw.) Wint., Ceratosphaeria, 176
rhizophila Rabenh., Zopfia, 134
rhodi (Nits.) Fuckel, Eutypa, 140
rhodobapha (B. & Br.) Sacc., Zignoella, 180
Rhododendri Ces., Lophodermium, 211
Rhododendri Rehm, Melanomma, 186
Rhododendri Grove, Microthyrium, 208
Rhododendri Cooke, Sphaerella, 171
rhodophila B. & Br., Valsa, 143
rhodorae (Cooke) Berl. & Vogl., Laestadia, 146
rhodostoma (Fr.) Speg., Karstenula, 190
Rhois Nits., Diaporthe, 163
Rhois (Schwein.) Ell. & Everh., Diatrypella, 139
Rhopographus Nits. in Fuckel (fere sine diag.), 207
Rhynchonectria von Höhnel, 201
Rhynchostoma Karst., 175
rhytidodes (B. & Br.) Sacc., Zignoella, 180
rhytismoides (Berk.) Trav., Guignardia, 145
ribesia (Cooke & Massee) Sacc., Phomatospora, 146
ribesia (Fr.) Sacc., Plowrightia, 206
Ribis Niessl, Cucurbitaria, 189
Ribis (Tode) Rabenh., Nectria, *201*
riccioidea (Bolt.) Karst., Hypocreopsis, *203*
rigens (Fr.) Sacc., Hypocrea, *203*
rimosa (Fr.) Fuckel, Scirrhia, 206
rimosicola (Leight.) Arnold, Tichothecium, 175
riparia (Niessl) Sacc., Cryptoderis, 176
Robergeana (Desm.) Wehmeyer, Cryptodiaporthe, 159
Robergei (Mont. & Desm.) Weese, Nectriella, 200
Robertiani (Fr.) Fr., Stigmatea, 208
Rosae Wolf, Diplocarpon, *207*
Rosae Fr., Dothidea, *143*
Rosae (Fuckel) Sacc., Gnomoniella, 145
Rosae Desm., Septoria, *180*
Rosarum de Not., Valsa, *141*
Rosellinia de Not., 154
rosellus (Fr.) Tul., Hypomyces, 198
rosicola (Fuckel) Sacc., Physalospora, 147
rostellata (Fr.) Bref., Gnomonia, 166
rostellata (Grove) Petrak & Syd., Ophiostomella, 153
rostrata (Fr.) Sacc., Ceratostomella, 144
rotula (Cooke) Sacc., Hypocopra, 151
Rougetii Mont. & Robin, Laboulbenia, 132
Rousseliana (Mont.) Wollenw., Pseudonectria, 201
Rousselii (de Not.) Sacc., Hysterographium, 210
rubelloides (Plowr.) Sacc., Leptosphaeria, 185
rubellus (Fr.) Sacc., Ophiobolus, 194
ruber van Tiegh., Gymnoascus, 133
Rubi (Rehm) Wint., Gnomonia, 166
Rubi Pers., Hysterium, *210*
Rubi Osterw., Nectria, *200*
Rubi Curr., Sphaeria, *157*
rubicola Curr., Sphaeria, *168*
rubicunda Rehm, Leptosphaeria, 185
rubicunda Niessl, Pleospora, 192
rubida Cooke, Metasphaeria, 179
rubiginosum (Fr.) Fr., Hypoxylon, 152
rubitingens Cooke, Didymella, 165
Ruborum (Lib.) Sacc., Melanopsamma, 168
rubricosa (Fr.) Sacc., Valsaria, 175
rubronotata (B. & Br.) Sacc., Thyridaria, 188
rubrum (Fr.) Chev., Polystigma, 204
rudis (Fr.) Nits., Diaporthe, 163
rufa (Fr.) Fr., Hypocrea, 203
rufulum B. & Br., Chaetomium, 150
rugosa Fr., Dichaena, *209*
rugulosa Fuckel, Ohleria, *187*
Rumicis Nits., Diaporthe, 163
Rumicis (Desm.) Grove, Mycosphaerella, 170
Rusci (Wallr.) Sacc., Leptosphaeria, 185
rustica (Karst.) Sacc., Metaspheria, 179
rutilum Tul., Hypoxylon, 153
Ryckholtii (Westend.) Nits., Diaporthe, 163

sabuletorum (B. & Br.) Sacc., Meta sphaeria, 179
Saccothecium Fr., 179

sagedioides (Wint.) Lindau, Mycosphaerella, 170
salicella (Fr.) Petrak, Cryptodiaporthe, 159
salicicola Cooke, Sphaerella, *171*
salicina (Curr.) Wehmeyer, Cryptodiaporthe, 159
salicina (Fr.) Fr., Valsa, 143
salicinum Mont., Capnodium, 137
Salicis Grove, Didymella, 165
Salicis (Rehm) Sacc., Fenestella, 190
Salicis (DC.) Wint., Uncinula, 136
Salicis Fuckel, Valsella, 143
saligna (Fr.) Berk., Isothea, 193
Salsolae Fuckel, Pleospora, 192
samarae Fuckel, Pleospora, 192
samaricola Phill. & Plowr., Diaporthe, 163
Sambuci (Pers.) Fr., Dothidea, *207*
sanguinea (Fr.) Cooke, Dialonectria, 196
saprophilum Ell. & Everh., Anthostoma, 148
Sarothamni (Auersw.) Nits., Diaporthe, 163
saturnus Sow., Sphaeria, 141
Saubinetii (Mont.) Sacc., Gibberella, 197
scabra (Curr.) Auersw., Lasiospheria, 178
scabrosa (Fr.) Fuckel, Eutypa, 140
scandens Sacc. & Speg., Diaporthe, 163
scatigena (B. & Br.) Sacc., Hypocopra, 151
Schiffnerula von Höhnel, *136*
Schizostoma (Ces. & de Not.) Sacc., 205
Schweinitzii (Fr.) Sacc., Hypocrea, 203
Schweinitzii Nits., Valsa, 143
"Scirpi, Sphaeria", *192*
scirpicola (Fr.) Karst., Pleospora, 192
Scirpi-lacustris (Auersw.) Lindau, Mycosphaerella, 170
scirpinum (Fr.) Duby, Hypoderma, 210
Scirrhia Nits. in Fuckel, 206
Scirrhiachora Theiss. & Syd., 207
scobina Nits., Diaporthe, 164
scopula Sow., Sphaeria, *149*
scoriadea (Fr.) Sacc., Massariella, 174
scotica Cooke, Xylaria, 157
Scrophulariae (Desm.) von Höhnel, Pleospora, 192
secedens Bucknall, Sporormia, *136*
Selinia Karst., 204
semi-immersum Nits., Hypoxylon, 153
semiliberum (Desm.) Sacc., Lophiotrema, 205
semi-ovata B. & Br., Antennaria, 136
sentina (Fr.) Schroet., Mycosphaerella, 170
sepincola Berl., Metasphaeria, 179
sepincola (Fr.) Fr., Saccothecium, 179
sepincoliformis (de Not.) Sacc., Didymella, 165
Septomazzantia Theiss. & Syd., 207
Sepultariae Wheldon, Sphaeroderma, *201*
seriata (Curr.) Sacc., Zignoella, 180
serignanensis Fabre, Hypocopra, 151
serpens (Fr.) Fr., Hypoxylon, 153
serratus Eidam, Ctenomyces, 133
setacea (Fr.) Ces. & de Not., Gnomonia, 166
setosa (Wint.) Sacc., Philocopra, 154
setosus Eidam, Gymnoascus, 133
sexdecemspora (Cooke) Sacc., Capronia, 189
sexnucleatum (Cooke) Sacc., Lophiotrema, 205
Sillia Karst., 195
simile Massee & Salm., Chaetomium, 150
simillimum Karst., Lophiostoma, 205
simulans Cooke, Sphaerella, 171
sinopica (Fr.) Fr., Nectria, 200
siparia (B. & Br.) Sacc., Pleomassaria, 190
sitophila Shear & Dodge, Neurospora, 153
Skimmiae Grove, Diaporthe, 164
Solani (Reinke & Berth.) Petch, Hyphonectria, 197
Soppittii Crossl., Thielavia, 134
Sorbariae Nits., Diaporthe, 164
Sorbi (Fr.) Sacc., Eutypella, 140
sorbicola (Nits.) Bref., Diaporthe, 164
Sordaria Ces. & de Not., 155
sordaria (Fr.) Rehm, Rosellinia, 155
sordida B. & Br., Diatrype, *164*
sordida Nits., Valsa, 143
Sowerbyi (Berk.) Sacc., Cryptospora, 193
Sowerbyi (Fuckel) Sacc., Leptosphaeria, 185
spadicea Fuckel, Anixia, 134
sparganicola Plowr., Sordaria, 156
Sparganii Cooke, Pleospora, 192
sparsa (Wallr.) Auersw., Sphaerella, *170*
Spartii (Nees) Ces. & de Not., Cucurbitaria, 189
Spartinae Grove, Didymosphaeria, 174
spermoides (Fr.) Ces. & de Not., Lasiosphaeria, 178
Sphaerella Ces. & de Not., 170

sphaericum Cooke, Capnodium, *208*
sphaerioides Alb. & Schw., Hysterium, *211*
Sphaeroderma Fuckel, 201
sphaerodermoides Grove, Melanospora, 199
Sphaerognomonia Potebnia, *145*
sphaeroides (Fr.) Fr., Dothiora, 207
Sphaerostilbe Tul., 201
Sphaerotheca Lév., 135
Sphaerulina Sacc., 179
Sphaerulina Grove, Phomatospora, 146
sphecocephala (Berk.) Berk. & Curt., Cordyceps, 203
sphingiophora (Oudem.) Sacc., Diaporthe, *159*
sphingum (Tul.) Sacc., Cordyceps, *203*
spiculosa ([Alb. & Schw.]) Nits., Diaporthe, 164
spina Fuckel, Diaporthe, *159*
spiniferum (Wallr.) de Not., Melogramma, 187
spinosa (Fr.) Tul., Eutypa, 140
spinosum Massee & Salm., Myxotrichum, 133
spirale Zopf, Chaetomium, 150
splendens Phill. & Plowr., Hypocrea, 203
spodiaea (Tul.) Sacc., Melanconiella, 174
Sporormia de Not., 187
Sporormia Cooke, Sphaeria, *188*
Sporormiella Ell. & Everh., nec Pirotta, 188
Spumatoria Massee & Salm., 171
squamarioides (Mudd) Wint., Tichothecium, 175
squamulosa Crouan, Sordaria, 156
stellulata (Fr.) Sacc., Eutypella, 140
stemmatea (Fr.) Romell, Mycosphaerella, *171*
stercoraria Hansen, Anixiopsis, 134
stercoraria (Fr.) Sacc., Hypocopra, 151
Stevensonii (B. & Br.) Sacc., Melanomma, 186
stictostoma (Ellis) Sacc., Diaporthe, 164
stigma (Fr.) Fr., Diatrype, 138
Stigmatea Fr., 207
Stigmatomyces H. Karst., 132
stilbostoma (Fr.) Tul., Melanconis, *163*, 167
Stilici Thaxt., Laboulbenia, *132*
stipata Curr., Sphaeria, 141
striaeformis (Fr.) Nits., Diaporthe, 164
strigosa (Fr.) Sacc., Lasiosphaeria, 178
strobicola Tubeuf, Hypoderma, 210
strobilina (Fr.) Fr., Dichaena, 209
strobilina Phill. & Plowr., Hypocrea, 203
stromatica Cooke & Massee, Kalmusia, 181
strumella (Fr.) Fuckel, Diaporthe, 164
Stuartella Fabre, 180
stygium (Lév.) Sacc., Hypoxylon, 153
stylophora (B. & Br.) Sacc., Lentomita, 167
subquaternata B. & Br., Nectria, 200
subradians (Fr.) Schroet., Mycosphaerella, *171*
subriparia Cooke, Pleospora, 192
subseriata Cooke, Valsa, 143
subterranea Thaxt., Laboulbenia, 132
subulatus (Tode) Fuckel, Eleutheromyces, *197*
subumbrinus A. L. Smith & Ramsb., Gymnoascus, 133
succenturiata (Fr.) Nits., Nummularia, *153*
suffulta (Berk. & Curt.) Petch, Neohenningsia, 200
suffusa (Fr.) Tul., Cryptospora, *144*, 193
sulcigena (Rostr.) Tubeuf, Hypodermella, 210
sulfurea Fuckel, Cephalotheca, 134
sulfurea (Fuckel) Petrak, Melanconis, 167
sulphurella Sacc., Lasiosphaeria, 178
sulphureus Massee & Salm., Arachnomyces, 134
superficialis (Curr.) Sacc., Trichosphaeria, 147
superflua (Fuckel) Sacc., Didymella, 165
surrecta (Cooke) Sacc., Kalmusia, 182
suspecta (Fuckel) Sacc., Gnomonia, 167
Sydowiella Petrak, *173*
Symplectromyces Thaxt., 132
syngenesia (Fr.) Fuckel, Diaporthe, *140*, 164
Syringae Fabre, Didymosphaeria, 174
Syringae (Fr.) Niessl, Otthia, 174
Syringae Nits., Valsa, 143, *163*
Systremma Theiss. & Syd., 207

tabifica (Prill. & Del.) Lind, Mycosphaerella, 170
taleola (Fr.) Sacc., Diaporthe, *162*, 164
tamaricina Sacc. & Flag., Diaporthe, 164
Tamaricis (Grev.) Sacc., Leptosphaeria, 185
tartaricola (Nyl.) Cooke, Orbicula, 137
Tassiana (de Not.) Johanson, Mycosphaerella, 170

Taxi Grove, Anthostomella, 149
Taxi (Sow. ex Fr.) de Not., Diplodia, *138*
Taxi (Cooke) Massee, Sphaerulina, 180
Teichospora Fuckel, 193
tenebrosa (B. & Br.) Sacc., Didymosphaeria, 174
tenellus (Auersw.) Sacc., Ophiobolus, 194
Teratomyces Thaxt., 132
teres Dreschl., Pyrenophora, 192
terrestris Plowr. & Boud., Hypomyces, *198*
terrestris (Sow.) Thüm., Lasiosphaeria, *177*
tessella (Fr.) Rehm, Diaporthe, 164
tessellata Petch, Calonectria, 196
tessera (Fr.) Fuckel, Diaporthe, 164
tetraploa (Berk. & Curt.) Sacc., Eutypella, 140
tetrasperma Dowding, Gelasinospora, 151
tetrasperma Shear & Dodge, Neurospora, 153
tetraspora B. & Br., Dothidea, *148*, 205
tetraspora Wint., Sordaria, 156
tetraspora Curr., Sphaeria, *141*, 143
tetratrupha B. & Br., Valsa, *190*
texanus Thaxt., Haplomyces, 132
thallina (Cooke) Sacc., Epicymatia, 176
thallophila (Cooke) Sacc., Epicymatia, 176
Thamnomyces Ehrenb. ex Fr., 156
thelebola (Fr.) Sacc., Melanconis, 167
thelena (Fr.) Rabenh., Rosellinia, 155
therophila (Desm.) Sacc., Phomatospora, 146
Thielavia Zopf, 134
Thistletonia Cooke, Physalospora, 147
Thujae Grove, Pleospora, 192
Thyridaria Sacc., 188
Thyridium (Nits.) Sacc., 193
Thwaitesii (B. & Br.) Sacc., Metasphaeria, 179
Thwaitesii Massee & Crossl., Venturia, 172
Tichothecium Flotow, 175
Tiliae Sacc., Capnodium, 137
Tiliae (Fr.) Fr., Hercospora, 167
Tiliae (Phill. & Plowr.) Sacc., Massarina, 178
tiliaginea Curr., Sphaeria, *167*
Tocciaeana de Not., Diatrypella, 139
tomentosa Otth, Sphaerotheca, *135*
tomicoides Sacc., Anthostomella, 149
tomicum (Lév.) Sacc., Anthostomella, 149
torminosus (Mont.) Tul., Hypomyces, *195*
Torrubiella Boud., 201
tortilis (Wallr.) Fr., Erysiphe, 135
tortuosa (Fr.) Sacc., Diaporthe, 164
tortuosa Cooke, Xylaria, 157
tosta (B. & Br.) Sacc., Didymella, 165
Trailia Sutherland, 201
Trematosphaeria Fuckel, 188
tremelloides (Fr.) Fr., Hypocrea, 203
Trichonectria Kirschst., 202
Trichophyae Thaxt., Polyascomyces, 132
Trichosphaeria Fuckel, 147
trichostoma (Fr.) Fuckel, Pyrenophora, 192
Trifolii Bayliss Elliott & Stansf., Dothidella, 206
Trifolii Rostr., Sphaerulina, 180
triglochinicola (Curr.) Sacc., Leptosphaeria, 185
triphractoides (Nyl.) A. L. Smith, Pharcidia, 171
tristis (Fuckel) Fitzp., Calyculosphaeria, 158, *181*
tritorulosa (B. & Br.) Sacc., Metasphaeria, *165*, 179
trivialis (B. & Br.) Sacc., Didymosphaeria, 174
truncata Bolt., Sphaeria, *154*
truncigena H. Hoffm., Anixia, 134
tuberculosa Bolt., Sphaeria, *152*
tuberosus Tul., Hypomyces, *198*
tubiformis (Fr.) Sacc., Gnomoniella, 145
tubulina (Alb. & Schw.) Shear, Camarops, *153*
Tulasneana (Plowr.) Petch, Apiocrea, 195
Tulasnei Nits., Diaporthe, 164
Tulasnei (Jancz.) Lindau, Mycosphaerella, *170*
Tulasnei Nits., Xylaria, 157
tunicata Kirschst., Rosellinia, 155
turgidum (Fr.) Nits., Anthostoma, 148
tympanidispora Rehm, Rhamphoria, 193
Tympanopsis Starb., 147
Typhae (Lasch.) Lindau, Mycosphaerella, 170
Typharum (Desm.) Karst., Leptosphaeria, 185
typhicola (Cooke) Sacc., Pleospora, 192
typhina (Fr.) Tul., Epichloe, 203
typhinum (Fr.) Lambotte, Lophodermium, 211

"udum Fr.", Hypoxylon, 153
Ulicis (Fr.) Sacc., Eutypa, 140
Ulicis Nits., Lophiostoma, 205

uliginosa (Phill. & Plowr.) Sacc., Leptosphaeria, 185
Ulmi (Fr.) Theiss. & Syd., Systremma, 207
Ulmi (Buisman) Nannf., Ophiostoma, 146
ulmicola (Curr.) Sacc. & Trav., Amphisphaeria, 173
ulnasporus (Cooke) Sacc., Ophiobolus, 194
umbonata (Tul.) Sacc., Pseudovalsa, 187
umbrina (Fr.) de Not., Amphisphaeria, 173
umbrina (Jenkins) Jenkins & Wehmeyer, Cryptosporella, 144
umbrina (Berk.) Fr., Nectria, 200
uncinatum (Eidam) Schroet., Myxotrichum, 133
Uncinula Lév., 136
undulata (B. & Br.) Sacc., Calospora, 176
undulata Pers., Sphaeria, *138*
unicaudata (B. & Br.) Sacc., Rebentischia, 187
Urticae (Fr.) von Höhnel, Aporhytisma, 143
Urticae (Rabenh.) Sacc., Ophiobolus, *194*
ustulatum Bull., Hypoxylon, *156*
Ustulina Tul., 156

Vaccinii (Fr.) Fr., Gibbera, 166
Vaccinii (Berk.) Boughey, Gloniopsis, 209
Vaccinii (Cooke) Schroet., Mycosphaerella, 170
vagabunda Sacc., Leptosphaeria, 185
vagabundum Sacc., Lophiotrema, 205
vagans de Not., Melogramma, 187
vagans Fabre, Lophiostoma, 205
vagans Niessl, Pleospora, 192
vagum Desm., Aulographum, 209
Valsa Fr., 141
Valsaria Ces. & de Not., 175
Valsella Fuckel, 143
vaporaria Berk., Xylaria, 157
variabilis Massee & Salm., Microascus, 134
varians (Curr.) Sacc., Diaporthe, 164
varium (Fr.) Sacc., Glonium, 209
vasinfecta E. F. Smith, Neocosmospora, *200*
vectis (B. & Br.) Ces. & de Not., Leptosphaeria, 185
velata (Fr.) Nits., Diaporthe, 164
velutina (Wallr.) Sacc., Eutypa, 140
velutina Fuckel, Rosellinia, 155
veneta (Burkh.) Jenkins, Elsinoe, 207
veneta (Sacc. & Speg.) Kleb., Gnomonia, 167
ventosaria (Linds.) Sacc., Amphisphaeria, 173
Venturia de Not., 172
vepris (de Lacr.) Wehmeyer, Apioporthe, 157
verecunda (Curr.) Sacc., Pleospora, 192
vermispora Massee & Crossl., Calonectria, *202*
vernicosa (Schw.) Ces. & de Not., Daldinia, *150*
Veronicae (Lib.) Cooke, Asterina, 208
Veronicae Rehm, Diaporthe, 164
verruciformis (Fr.) Nits., Diatrypella, 139
verticillatus A. L. Smith, Gymnoascus, 133
vervecina (Desm.) Fuckel, Melanospora, *198*
vesticola (B. & Br.) Sacc., Hypocopra, 151
vestita Sacc., Ceratostomella, 144
vestita (Fr.) Sacc., Fenestella, 190
Veuillotiana (Sacc. & Roum.) Cooke, Dialonectria, 196
vexata (Sacc.) Wint., Didymosphaeria, 174
Vialaea Sacc., 172
vibratilis (Fuckel) Sacc., Massariella, 174
Viburni (Bucknall) Berl. & Vogl., Linospora, 193
vile (Fr.) Fuckel, Melanomma, 187
Vincae (Cooke) Cooke, Diaporthe, 164
violacea (Schmidt) Petch, Hyphonectria, 197
virgultorum DC. ex Sacc.? Hypoderma, 210
virgultorum (Fr.) Sacc., Plowrightia, 206
viridarii Sacc., Diaporthe, 164
viridarium Cooke, Lophiostoma, 205
viridis ([Alb. & Schw.]) Petch, Byssonectria, *195*
viscidula Phill. & Plowr., Hypocrea, *202*
Vitalbae (B. & Br.) Sacc., Broomella, 176
Vitalbae (de Not.) Berl., Pleospora, *190*
viticola Nits., Diaporthe, 164
vitrea (Corda) Sacc., Melanospora, *199*
Vizeana Sacc. & Speg., Ditopella, 144
vulgare Corda, Perisporium, 136
vulgaris Fuckel, Epicymatia, 176
vulgaris (Ces. & de Not.) Sacc., Gnomoniella, 145

vulgaris Peyritsch, Laboulbenia, 132
vulgaris (Sacc.) Sacc., Ophiobolus, 194
vulgaris Niessl, Pleospora, 192
vulgaris Thaxt., Symplectromyces, 132
vulgaris Tul., Ustulina, 156
vulgatus Thaxt., Dichomyces, 132

Wahlenbergii (Desm.) Nits., Calosphaeria, 137
Wegeliana (Rehm) Petch, Dialonectria, 196
Wibbei Nits., Diaporthe, *158*
Wilsoni Cooke, Claviceps, *195*
Winteri (Phill. & Plowr.) Sacc., Delitschia, 173
Winteri Niessl, Didymosphaeria, 174
Winteria Rehm, *176*
Winterii Karst., Sordaria, 156

xantha Sacc., Ceriospora, *176*
xantholeuca (Fr.) Sacc., Calonectria, 196
xanthostroma (Mont.) Schroet., Melanconis, 167
Xylaria Hill ex Grev., 156
Xylobotryum Pat., *175*
xylomoides Chev., Hysterium, *210*
xylostei (Fr.) Sacc., Anthostoma, 148

Zamiae Corda, Melanospora, 199
Zeae (Schw.) Petch, Gibberella, 197
Zignoella Sacc., 180
Zobelii (Corda) Fuckel, Melanospora, 199
Zopfia Rabenh., 134
Zygospermella Cain, *173*

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THE BRITISH SPECIES OF *PUCCINIA* INCLUDED UNDER "*P. SYNGENESIARUM*" WITH NOTES UPON THE BRITISH RUST FUNGI OCCURRING ON THISTLES

By MALCOLM WILSON
Department of Mycology, University of Edinburgh

THERE has been considerable doubt regarding the identity of the rusts known by the older British mycologists as *Puccinia Syngenesiarum*.* Two authorities have been given for this species, Link and Corda.

(1) *P. Syngenesarum* Link in Linn. *Sp. Plant.* ed. IV, 6, (2), p. 74 (1825).

P. conglomerata Schmidt & Kunze, *exsicc.* n. 191.

Uredo conglomerata Strauss, *Wett. Ann.* 2. p. 100.

This is stated by Link to occur on *Tussilago alpina* Kunze and on *Centaurea alpina* Ehrenb. in Germany. These two hosts have been proved to be identical and are now called *Homogynes alpina*. The rust is known as *P. conglomerata* (Strauss) Kze. & Schm. It is a well-recognized species possessing teleutospores only, which are smooth, generally attenuated at base and apex, with the apex usually unthickened and with very short hyaline pedicels. A description with references to literature, iconography, synonymy and list of exsiccata is given by Sydow (1902, p. 99). *P. Senecionis* Lib. and *P. expansa* Link were at one time included in *P. conglomerata* but are now recognized as distinct species. There is no evidence that *P. conglomerata* as at present defined is a British species.

(2) *P. Syngenesarum* Corda, *Icones* IV, p. 16, Taf. IV, fig. 53 (1840). Corda adds "Link. *Spec.* II, p. 74, part", and states that the species occurs on *Cirsium lanceolatum*, *Onopordon Acanthium* and many other Synantherae.

He adds that the large, elongated, almost pulvinate and pulverulent sori reach often nearly a line in length and up to one-quarter of a line in width and that the surrounding leaf surface with its hair becomes powdered with the spores. The spores possess a very short, thin, colourless stalk which is often pointed. Corda gives two figures; one shows the leaf, apparently at natural size, with elongated sori about

* The specific epithet has been spelt in several ways: *Syngenesiarum*, *Syngenesarum* and *Syngenesearum*. The first method, from *Syngenesia* L., is regarded here as correct and is used in this note. In referring to special papers however or books the spelling used there is retained.

2–3 mm. long and 1 mm. wide; the second shows the teleutospores with wall of equal thickness all round, no papilla, very slight constriction, rounded above and below, colourless pedicel more or less pointed at the base and sometimes attached obliquely.

It is noteworthy that both *P. Syngenesarum* Link and *P. Syngenesarum* Corda agree in possessing smooth, slightly constricted teleutospores with the wall of equal thickness all round and very short hyaline pedicels.

The descriptions of *P. Syngenesiarum* given by Johnston (1831, p. 197), Berkeley (1836, p. 365) and Cooke (1871, p. 499; 1878, p. 206) are generally similar to the accounts given by Link and Corda. Johnston gives Link as the authority and states that the species occurs on the leaves of thistles and of the goat's-beard. Berkeley also gives Link as authority; he states that he has not seen the fungus on thistles and refers to Johnston. Cooke gives Link as the authority but also refers to Corda; he quotes *P. Cirsii* Fckl. as a synonym. He states that the species is common on thistles in autumn (1871, p. 499; 1878, p. 206). Plowright (1889) gives *P. Syngenesiarum* Link as a synonym for *P. Tragopogi* and quotes "Johnst. *Flor. Berw.* II, p. 197, in part".

Up to this stage all the authors agree in their publications that *P. Syngenesiarum* possesses teleutospores with very short pedicels. It may be assumed that this was the general opinion until the publication in 1889 of Plowright's *British Uredineae and Ustilagineae*.

When however the specimens of *P. Syngenesiarum* collected by Johnston, Vize and Cooke are examined, a different state of affairs is discovered. Eighteen specimens from the herbaria at Kew, Edinburgh, Birmingham (Plowright Herbarium and Grove Collection) and Berwick (Johnston) have been examined; these specimens were collected between 1831 and 1885. The oldest specimen examined,* that from Johnston's herbarium at Berwick, is found to be *P. Carduorum* Jacky, on *Carduus crispus* L. As *P. Carduorum* possesses small sori and the teleutospores have short hyaline pedicels it does generally agree with the description given for *P. Syngenesiarum*. Two of the specimens were collected by Vize; one is *P. Carduorum* on *Carduus nutans* L., and the second *P. Le Monnieriana* Maire on *Cnicus palustris* Willd. One specimen collected by Miss Jelly in 1878 is also *P. Le Monnieriana* on *C. palustris*. Of the fourteen specimens collected or named by Cooke, one is *P. Carduorum* on *Carduus crispus* and thirteen are *P. Le Monnieriana* on *C. palustris*.

In the majority of the specimens of *P. Syngenesiarum*, the name of the host plant is not given and, since most of the specimens consist of

* There is no date on Johnston's specimen in the herbarium at Berwick but as a reference is given on the sheet to his Flora it must have been placed in this collection subsequently to 1831. Johnston died in 1855 and thus the date of the specimen must be between 1831 and 1855.

isolated leaves or portions of leaves, it has been very difficult to determine the identity of the hosts. The differences between the leaves of *Cnicus lanceolatus* and *C. palustris* are, however, well marked. In *C. lanceolatus* stout spines are found on the margin of the leaf and similar spines of smaller size occur on the upper surface; a few white, cottony hairs are also found on the upper surface, especially along the midrib and veins and similar hairs are abundant on the lower surface. In *C. palustris*, spines are found only on the leaf margin; scattered, multicellular hairs, which have a glistening appearance in the dried specimen, are found scattered over both upper and under surfaces, especially near the veins; these somewhat resemble a string of beads in appearance, owing to the constrictions between the cells.

The teleutosori of *P. Le Monnieriana* are fairly large, the teleutospores are clavate with long, coloured, persistent pedicels and thus thirteen out of fourteen of Cooke's specimens do not agree with his description of *P. Syngenesiarum* (1878, p. 206) in which the sori are described as minute, the teleutospores having short pedicels.

It is interesting to note that in the packet containing one of Cooke's specimens there is a portion of a letter written by the correspondent who sent the specimen; the signature has been cut away. This correspondent writes: "What is this enclosed *Puccinia* on *Carduus*? It is unlike any of the described species on the Compositae as it has a very long peduncle." This specimen was, however, labelled *P. Syngenesiarum* by Cooke.

Cooke, in his general account of *P. Syngenesiarum* states (1878, p. 62): "No species in the entire genus makes so prominent an appearance as the one on the radical leaves of the spear thistle (*Carduus lanceolatus*). This latter plant is exceedingly abundant, and so is its parasite (*Puccinia syngenesiarum*, Lk.). From the month of July till the frosts set in we may be almost certain of finding specimens in any wood. The leaves have a paler roundish spot, from one-twelfth to one-fourth of an inch in diameter, on the upper surface, and a corresponding dark brown raised spot on the under surface, caused by an aggregation of pustules, forming a large compound pustule, often partly covered with the epidermis. The individual pustules are small, but this aggregate mode of growth gives the clusters great prominence, and therefore they are not easily overlooked (plate IV, fig. 63). Although not confined to this species of thistle, we have not yet found this *Puccinia* on any other plant. The spores are elliptical, rather elongated, constricted, and without spines (fig. 64)."

If, in this account, *Cnicus palustris* is substituted for *C. lanceolatus* as the name of the host, a very good description of *P. Le Monnieriana* is produced; the observation that the rust occurs on the radical leaves is particularly interesting, for this position is very characteristic of *P. Le Monnieriana* and has been specially noted by Maire (1913); the pale

roundish spot on the upper surface of the leaf opposite the hypophyllous sorus is also distinctive of this species. From a consideration of Cooke's account, together with the facts previously mentioned, it appears very probable that his identification of the host was incorrect and that the plant in question was *Cnicus palustris*, not *C. lanceolatus*. Additional evidence for this conclusion is given by an examination of his fig. 63, Pl. IV, in which a portion of the leaf, bearing sori is shown; the leaf depicted agrees better with *C. palustris* than with *C. lanceolatus* and the sori closely resemble those of *P. Le Monnieriana*. Also it may be noted that *C. lanceolatus* does not commonly grow in woods while *C. palustris* is often found in open places in damp woods. Cooke's fig. 64, Pl. IV depicts two teleutospores; these, as they are hardly clavate and have short colourless pedicels and no apical thickening, do not agree with those of *P. Le Monnieriana* but more nearly with the description of *P. Syngenesiarum*.

During August 1939 plants of *Cnicus palustris* were collected in Wyre Forest, Worcestershire, in which the radical leaves were infected with *P. Le Monnieriana* and the cauline leaves with *P. Cirsii*. Cooke may have collected similarly infected plants and drawn the sori from a radical leaf, and the teleutospores from a cauline leaf; or his drawing of the teleutospores may have been influenced by his description of *P. Syngenesiarum* (1878, p. 206).

Knowing that Cooke's *P. Syngenesiarum* consisted almost entirely of *P. Le Monnieriana* on *Cnicus palustris* it is easy to trace the influence of his mistakes on subsequent investigators. These latter appear to have based their work on the assumption that *P. Syngenesiarum* of Cooke consisted for the most part of a rust growing on *Cnicus lanceolatus* in which the teleutospores possessed an upper cell with the wall thickened at the apex and long, persistent, coloured pedicels.

Plowright (1889, p. 216) described a new species *P. Cardui* on *Cnicus lanceolatus* and *Carduus crispus*, of which the description agrees almost exactly with that of *P. Le Monnieriana* Maire. This is stated to grow on *Cnicus lanceolatus* and *Carduus crispus*. He gave as synonyms:

Puccinia Syngenesiarum, Link. Johnst. *Flor. Berw.* II, p. 197; Berk. *Eng. Flor.* V, p. 365; Cooke, *Hdbk.* p. 499; *Micro. Fungi*, 4th ed. p. 206, t. IV, figs. 63, 64;

Puccinia Cirsii Fckl. Exs. No. 340 (?);

but stated "It is clearly not the plant described by Link (*Sp. Plant.* VI, pt. II, p. 74) which has very short pedicels. It may be Fuckel's *P. Cirsii*." Plowright thus clearly indicated that although his species was not *P. Syngenesiarum* Link it was the *P. Syngenesiarum* of Cooke and others. Up to the present, endeavours to obtain Plowright's type specimen have failed. Specimens of *P. Cardui* Plowr. have, however, been examined from Kew and Birmingham. That from Kew is labelled "Herb. C. Crossland, on *Carduus* sp.? Isle of Wight, per J. F

Rayner, Southampton, Aug. 29/07." It is *P. Le Monnieriana* on *Cnicus palustris*. Two specimens from Birmingham labelled "*Puccinia Cardui* on *Cnicus lanceolatus*, Randan Woods" (one in the handwriting of W. B. Grove), are also *P. Le Monnieriana* on *Cnicus palustris*. It appears, therefore, that both Plowright and Grove followed Cooke in their incorrect determination of the host plant; possibly they accepted Cooke's statements and specimens without further investigation.

Sydow (1902, p. 58) quoted *P. Cardui* as a synonym for *P. Cnici-oleracei* Pers. and stated that this rust is found on *Cirsium lanceolatus* and *Carduus crispus* (?) as well as on *Cirsium ochroleucum* and *C. oleraceum*, apparently relying on Plowright's statements for the two former species. Fischer (1904, p. 292) stated that *P. Cnici-oleracei* occurs on *Cirsium ochroleucum*, *C. oleraceum*, *C. lanceolatum* and *Carduus crispus* "(nach P. und H. Sydow)", but records it in Switzerland only on *Cirsium oleraceum*.

Grove (1913, p. 144) under his description of *P. Cnici-oleracei* Pers. states that "It is doubtful if *Puccinia Syngenesiarum* (Cooke, *Handbook*, p. 499; *Micro. Fung.* p. 206) belongs entirely here, as the figure in the latter work (Pl. IV, fig. 64) does not give the true form of the teleutospore; but the majority of the specimens issued by him under that name are this species." Grove quotes *P. Cardui* Plowr. as a synonym for *P. Cnici-oleracei* Pers., and gives as host plants *Cnicus lanceolatus* and, doubtfully, *Carduus crispus*. This is not surprising, for there is a great resemblance between *P. Cnici-oleracei* and *P. Le Monnieriana* and, as already shown, it is highly probable that *P. Cardui* Plowr. is identical with *P. Le Monnieriana*.

It may be concluded therefore that Cooke's misstatements, made between 1864 and 1885, and his incorrectly determined specimens, strongly influenced investigators during the subsequent thirty-five years and at length led to the erroneous statements made by Grove in connexion with *P. Cnici-oleracei*. No British specimens labelled *P. Cnici-oleracei* have been found in the herbaria at Kew, Edinburgh, Birmingham or Berwick; Ramsbottom (1913) includes this species in his list of British Uredinales but gives *P. Cardui* Plowr. as a synonym.

Liro (1908, p. 396) has stated that in Finland, *P. Cnici-oleracei* occurs on *Cnicus heterophyllus* Willd., *C. oleraceus* and the hybrid *C. oleraceus* × *heterophyllus*, and that the rust on these three hosts is identical with *P. Andersoni* B. & Br. Sydow (1904, p. 856) quotes this statement and appears to agree with it. The rust which occurs in this country on *Cnicus heterophyllus* (Plowright, 1889, p. 204; Grove, 1913, p. 146) has up to the present been regarded as the distinct species *P. Andersoni* B. & Br., but in view of Liro's discovery it must now be regarded as *Puccinia Cnici-oleracei* Pers.

Puccinia Cardui-pycnocephali Sydow has now been recorded by Hadden (1930) in Somerset, Ellis (1933–4) in Norfolk, Wilson (1934,

p. 369) in East Lothian and Berwickshire and Mayfield (1935) in Suffolk, in addition to the records given by Grove (1913, p. 142). *P. galatica* Sydow, at first separated from *P. Cardui-pycnocephali*, has been recognized as identical with it by Sydow (1904, p. 852).

Puccinia Cirsii-lanceolati Schroet., in Cohn, *Krypt.-Fl. Schles.* III, pt. 1, p. 317 (1887), should be known as *P. Cnici* Mart., *Fl. Mosq.* p. 226 (1817) as pointed out by Arthur (1934). It has been found recently on *Cnicus eriophorus* Roth., by Ellis and Rhodes near Oxford (Ellis *in litt.*).

Puccinia Cirsii Lasch has now been found on *Cnicus palustris* Willd., on *C. pratensis* Willd., in Galway (Grove, 1913) and in Surrey, on *C. acaulis* in Norfolk (Ellis, 1933–4) and in Wiltshire and on *C. heterophyllus* in Scotland (Wilson, 1934).

Puccinia Le Monnieriana Maire is stated by Maire (1913) to be identical with *P. Cirsiorum* var. 2 *Cirsii-palustris* Desm. *Pl. Crypt. France*, ed. 1, no. 557.

Puccinia Cirsiorum var. 1 *Cirsii-oleracei* is stated by Desmazières to be *Puccinia Cnici-oleracei*.

The valid name for *P. Le Monnieriana* should therefore be *P. Cirsii-palustris* (Desm.) comb.nov. This species is now known from Middlesex, Kent, Surrey, Hampshire, Norfolk, Suffolk, Cambridge, Worcestershire and from several localities in Scotland.

Puccinia suaveolens (Pers.) Rostr., common on *Cnicus arvensis* Hoffm., has been found on *Cnicus arvenis* Hoffm., var. *setosus* Bess., near Inverness, by Dr J. A. Macdonald (*in litt.*). As pointed out by Magnus (1903) *Puccinia suaveolens* (Pers.) Rostr. *Forh. skand. Naturf. Kopenhagen*, p. 339, 1873 is the valid name for this species and not *P. obtegens* (Link) Tul.

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Summary

1. Eighteen specimens of *Puccinia Syngenesiarum* have been examined, and of them fifteen have been found to be *P. Le Monnieriana* Maire on *Cnicus palustris*.

2. The mistaken identification by Cooke of *C. palustris* for *C. lanceolatus* as the host plant of *Puccinia Syngenesiarum* has very probably led to the erroneous citations of *Cnicus lanceolatus* as a host plant of

Puccinia Cardui Plowr. by Plowright and as a host of *P. Cnici-oleracei* Pers. by Grove.

3. Although the type specimen of *P. Cardui* Plowr. has not been examined, this species is almost certainly identical with *P. Le Monnieriana* Maire.

4. Notes of the nomenclature and distribution of the following species are given: *P. Cnici-oleracei* Pers. (*P. Andersoni* B. & Br.), *P. Cardui-pycnocephali* Sydow, *P. Cnici* Mart. (*P. Cirsii-lanceolati* Schroet.), *P. Cirsii* Lasch, *P. Cirsii-palustris* (Desm.) comb.nov. (*P. Le Monnieriana* Maire), *P. suaveolens* (Pers.) Rostr. (*P. obtegens* (Link) Tul.).

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A *PHYTOPHTHORA* BLIGHT OF BULBOUS IRIS

By GORDON W. GIBSON
Isles of Scilly Experiment Station, St Mary's
AND P. H. GREGORY
Seale-Hayne Agricultural College, Newton Abbot

(With 5 Text-figures)

THE bulbous irises grown extensively in the south-west of England for cut flowers are mostly hybrids of *Iris xiphium* and *I. tingitana*. These so-called "Dutch Iris" are frequently attacked by leaf diseases. The ink disease (*Mystrosporium adustum* Mass.) which produces irregular black markings on leaves and stems frequently occurs, but does not destroy the bulbs of these varieties as it may those of *Iris reticulata*. The whitish irregularly circular lesions of Leaf Spot (*Heterosporium gracile* (Wallr.) Sacc.) often render the crop unsaleable.

In the Isles of Scilly the senior author has observed since 1928 an undescribed species of *Phytophthora* on the foliage of Dutch Iris. The disease appears regularly in wet seasons in March, April and May, but is difficult to find during a dry spring. It has also appeared once on iris boxed for forcing under glass. This blight occurs in Scilly on the varieties Wedgwood, Imperator and White Excelsior, and has also been found near Penzance on Jacob de Wit.

The blighted plants occur in patches several feet in diameter, and a bad attack is easily seen from a distance. The lower leaves of the affected plants bend over until their ends touch the ground, exposing the light green concave inner surface. Closer inspection shows that the leaves have collapsed at the site of necrotic lesions on the outer (distal) surface. Similar lesions are often present higher up the plant on younger leaves.

The affected tissue consists of a whitish lesion which, instead of remaining circumscribed as in Leaf Spot and Ink Disease, spreads rapidly up and down the leaf (Fig. 1). The first lesions appear to develop near the bases of the older and outer leaves, and it is suggested that infection here may be facilitated by the quantity of water which is often held between the sheathing leaf bases and the stem. Other lesions soon appear on the younger leaves and are carried up out of the water film as the axis of the plant elongates. In a longitudinal direction the individual lesions extend without restriction, but they tend to be prevented from spreading across the leaf by the

parallel vascular bundles. The lesions are thus sharply bounded by parallel sides along the length of the leaf, but their transverse ends merge indefinitely into healthy tissue. On the outer surface of the leaf the transverse ends of the lesion show a narrow pale yellowish green zone, and, within this, the lesion acquires a necrotic appearance which may be irregularly coloured light purplish brown or even

Fig. 1. Lesions of *Phytophthora* blight on foliage of Iris Wedgwood, from St Mary's, Isles of Scilly.

greyish white. Along the longitudinal edge of the lesion this hue contrasts sharply with the dark green of a normal leaf. The extreme tips of the leaves are not infected, but they wither when extensive lesions are present lower down. On the inner (proximal) surface of the leaf the lesion is much less obvious and is generally purplish grey.

After flowering, and towards the end of the growing season in the variety Wedgwood, the lower lesions extend down below soil level towards the new bulbs which are formed within the shrivelled skin of the parent bulb. On the subterranean part of the axis the

lesion is conspicuous as a dark purplish brown streak against the blanched surface of the lower sheathing leaf bases and stem. It is possible that the large hyphae, rich in protoplasm, which are found in this lesion, reach the newly formed bulbs and remain until the following spring, when reinfection can be established. The possibility that infection is carried by the bulb is supported by the record of the occurrence of the disease under glass.

The disease appears to spread somewhat slowly from one plant to another, and when bulbs are left down, blighted patches reappear in the same place in the following season. In addition, the plants in these second year patches are often markedly stunted and tend to die out.

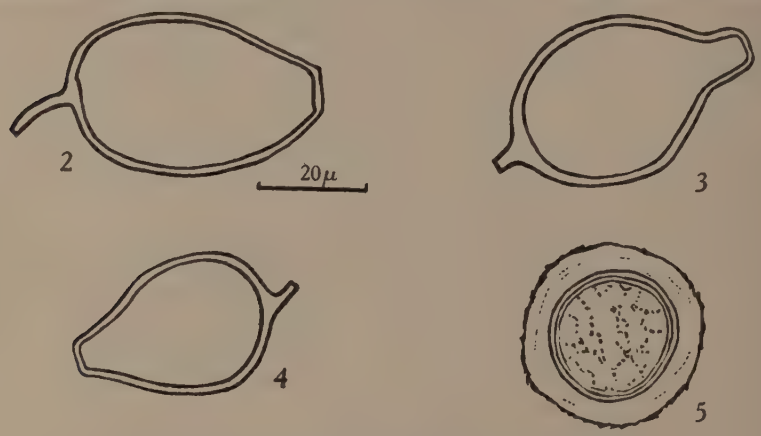
The fungus forms a sparse white powdery layer, comprising sporangia over almost the whole of the affected parts of the outer surface of the leaf, but not on the inner surface. The sporangia are produced in short compact clusters on sporangiophores emerging from the stomata. They are frequently beaked and appear to be applanate. The apex is nearly flat and the thickening relatively shallow. They separate readily from the short sporangiophores and each bears a short occluded pedicel (Figs. 2–4). The sporangia measure $37–66 \times 24–40\mu$. Zoospores are differentiated in the sporangium and scatter immediately after emission. Zoospores are sluggish in movement and measure, when rounded and at rest, mostly $8–12\mu$. Specimens were kindly examined by Mr S. F. Ashby, of the Imperial Mycological Institute, who considered that the fungus is not improbably related to certain species recorded on sedges in the Far East, especially *Phytophthora Cyperi-rotundati* Sawada.

Repeated examination of young and old lesions on leaves and stems both above and below soil level during spring and summer failed to reveal the presence of sexual organs. On overwintered leaves, however, bodies $32–44\mu$ in diameter, resembling oogonia, and containing oospore-like bodies $27–35\mu$ in diameter, were observed (Fig. 5). These may belong to the *Phytophthora* but as no antheridia were seen the connexion is not yet established. It is not yet clear therefore whether the fungus passes the summer in portions of the old plant attached to the newly formed bulbs, or in fragments of withered leaves on the surface of the soil.

During the years 1937–9, numerous unsuccessful attempts were made to grow the organism on a variety of culture media. In 1937 and 1938, portions of leaves bearing sporangia were placed in the water retained in leaf bases of healthy plants of Wedgwood and *Iris tingitana* under bell-jars at Newton Abbot, but no infections resulted.

Control measures have not been fully worked out, and a spraying test with Bordeaux mixture out of doors was complicated by the

presence of Leaf Spot. Under glass, infection seems to have been controlled by avoiding watering the plants from overhead, so as to prevent the accumulation of water in the sheathing leaf bases. Out of doors each leaf in its development passes up through a film of water held in a leaf base, and conditions would therefore be favourable for infection by motile zoospores. It is possible that a light application of a soluble fungicide might prove adequate to control the disease if a sufficient concentration could be held in the leaf bases. Careful



Figs. 2–4. Sporangia from leaf lesions on Iris Wedgwood.
Fig. 5. Oospore associated with *Phytophthora* blight on overwintered leaves of Iris Wedgwood.

cleaning of foliage from beds to be left down for more than one year, the discarding of bulbs from diseased plants, and planting only sound bulbs on clean land are obvious precautions to be adopted until more is known about the origin of this disease.

Summary

A description is given of a blight of the foliage of several varieties of Dutch Iris which has occurred in the Isles of Scilly since 1928. The disease is associated with an unidentified *Phytophthora* which is possibly related to *P. Cyperi-rotundati* Sawada. Suggestions for control are based upon measures of plant sanitation.

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TWO DISEASES OF GRASSES CAUSED BY SPECIES OF *HELMINTHOSPORIUM* NOT PREVIOUSLY RECORDED IN BRITAIN

By KATHLEEN SAMPSON and J. H. WESTERN
University College of Wales and Welsh Plant Breeding Station, Aberystwyth

(With 2 Text-figures)

I. ***Helminthosporium siccans*** Drechsler

Symptoms. Brown lesions associated with a species of *Helminthosporium*, identified then as *H. gramineum* Rabenh., were observed on leaves of perennial rye-grass in Wales as far back as 1921 (Sampson, 1922), but the disease was not closely studied until recently. While the disease is not highly destructive, lesions are seldom absent from rye-grass plots in this district, and at times they occur in sufficient abundance to produce a brown effect on the plants, notably in early spring and autumn when the fungus seems to be a contributing factor to "Winter Burn". The disease has been observed not only in Wales, but also in many English counties.

Small infections consist of oval, chocolate-brown spots which finally become white in the centre. Larger lesions take the form of dark streaks a centimetre or more in length. Infections are discontinuous, totally unlike the systemic type produced by *H. gramineum* on barley. Sometimes the mesophyll is completely destroyed, leaving only the veins, and the lamina bends or breaks at the place of infection. Infected plants possess many leaves with dead tips on which the fungus readily fruits. Distorted and discoloured spikes have been found with conidiophores on the bleached glumes of dead spikelets and spores have been found on viable seeds. Similar symptoms occur on *Lolium perenne* Linn., *L. multiflorum* Lam., and *Festuca pratensis* Huds.

Isolation of the parasite and inoculation experiments

The preparation of pure cultures presents no difficulty as the large spores can be picked off under a binocular microscope, and they rarely fail to germinate on the surface of agar. Ten or twelve monospore cultures have been prepared from each host and grown on various media. The following inoculation experiments were carried out.

Exp. 1, *January* 1938. Two pot plants of perennial and of Italian rye-grass were inoculated by smearing marked leaves with spores and mycelium from pure cultures, sprayed with sterile water and kept in a moist chamber for several days. All the inoculations of Italian rye-grass with a culture obtained from the same host were successful, typical brown lesions being produced. One lesion developed on perennial rye-grass inoculated with spores from Italian rye-grass, while the control plants and those inoculated with a culture derived from perennial rye-grass remained healthy.

Exp. 2, *November* 1938–*March* 1939. Grains of the two rye-grasses and of meadow fescue were treated with 0·1 % mercuric chloride solution in sterile water, washed, and germinated on the surface of agar in sterile Petri dishes. Seedlings which remained free from mycelium were transplanted to pots of sterilized soil* which had been mixed with rye-grass chaff heavily infected with the appropriate cultures of *Helminthosporium*. The unit for each part of the experiment consisted of at least five pots each containing five seedlings. The different series of pots were kept in an unheated glasshouse in compartments separated by double muslin partitions. All the control pots remained free from infection, while a trace developed in the following inoculated series: *Lolium perenne* inoculated with cultures derived from *L. multiflorum* and *Festuca pratensis*; *L. multiflorum* inoculated from *L. perenne*; *F. pratensis* inoculated from *L. perenne* and *L. multiflorum*.

Thirty per cent of the seedlings became infected when *L. perenne* was inoculated with its own strain. Infected seedlings showed lesions on the second or third leaf and in the moist atmosphere of the glasshouse the fungus sporulated freely.

The establishment was satisfactory in all units except that of *Festuca pratensis* in soil contaminated with inoculum from the same host, where only about half the seedlings appeared above ground. A search revealed several seedlings which had failed to reach the surface, and the damaged shoots carried abundant conidia. A similar effect was obtained in Exp. 3.

Exp. 3, *November* 1939–*February* 1940. Three large (8 in.) pots of sterilized soil were inoculated with isolates of *Helminthosporium* from (*a*) *Lolium perenne*, (*b*) *L. multiflorum*, (*c*) *Festuca pratensis*, and 350 seeds of *F. pratensis* were sown in each pot. Germination was retarded by cold in the first weeks of the experiment, and an establishment of only 33 % was obtained in the control pots. The seedlings in these pots remained free from disease while in the inoculated series the numbers of seedlings with typical lesions were as follows: pot (*a*) 7, pot (*b*) 13, pot (*c*) 3. Establishment in pot (3) where the inoculum

* Moist soil was kept at a temperature of 95–100° C. for 4–5 hr. Experiments showed that mycelium and spores of *Helminthosporium* were killed by this treatment.

came from *F. pratensis* was only 23 %, 10 % lower than in the control series, a result which confirms that obtained in Exp. 2. It is concluded that the strain on meadow fescue can infect both species of rye-grass and that meadow fescue seedlings growing in heavily infected soil are liable to attack before reaching the surface.

Exp. 4, *March* 1940. Young plants of *Festuca pratensis* sprayed with a suspension of spores of *Helminthosporium siccans* from a culture from *Lolium perenne* developed typical lesions.

While the problem of physiologic specialization in this species has not been fully investigated, the results so far obtained indicate clearly that the fungus can pass from rye grass to meadow fescue and *vice versa*.

Table I. *Showing the size and septation of spores of* Helminthosporium siccans *taken from different hosts and from culture media*

	Length in μ		Width in μ		No. of septa	
Origin of spores	Range	Av.	Range	Av.	Range	Av.
Lolium perenne:						
Plant	49–215**	109·0	12–22	16·5	2–15	6·7
Tap-water agar	27–97	72·3	12–20	15·4	1–7	4·2
Potato-dextrose agar	20–84	55·6	10–18	13·5	1–6	3·2
Lolium multiflorum:						
Plant	30–173	95·9	10–17	13·6	1–9	5·6
Tap-water agar	17–100	65·2	10–20	14·3	1–6	4·3
Potato-dextrose agar	17–97	44·6	8–23*	13·2*	0–6	3·1
Festuca pratensis:						
Plant	43–127	88·9	10–20	14·8	2–8	5·3
Tapering type on tap-water agar	30–87*	56·3*	10–17*	13·3*	2–6*	4·2*
Cylindrical type on tap-water agar	20–123*	78·2*	10–17*	14·9*	2–6*	4·6*
Cylindrical type on potato-dextrose agar	30–77	53·9	7–13	11·2	0–7	3·9
Helminthosporium siccans Drechsler *Lolium perenne* and *L. multiflorum* plant (Drechsler, 1923)	31–160	80·1	11–20	16·8	2–10	4·9
Helminthosporium dictyoides Drechsler *F. elatior* (Drechsler, 1923)	23–115	74·5	14–17	16·1	1–7	4·4

** All measurements are based on 200 spores except those marked with an asterisk. At least 100 spores were measured in all samples.

Identification of the parasite

The dark brown, septate, geniculate sporophores, typical of the genus *Helminthosporium*, arise freely on dead tissues. They are almost invariably solitary, rarely in twos or threes, and vary greatly in length, reaching a height of 200 μ. The lowest cell is usually swollen at the base.

The conidia, upon which the classification of the genus chiefly

rests, are subhyaline, straight, cylindrical or tapering, with the hilum entirely included in the exospore. The species has therefore affinities with *H. gramineum* Rabenh., and other members of the subgenus *Cylindro-Helminthosporium* of Nisikado (1929).

Species of *Helminthosporium* attacking members of the Gramineae of temperate regions have been most fully studied by Drechsler (1923) who described several new species, including *H. siccans* on *Lolium multiflorum* and *L. perenne*, and *Helminthosporium dictyoides* on *Festuca elatior* L. (=*F. pratensis* Huds.). These species are much alike, distinguished morphologically chiefly by the slightly more tapering spores of the latter species. They are described as producing somewhat different symptoms; the lesions on rye-grass have the form of spots, while those on meadow fescue are reticulate, recalling the net blotch of barley caused by *Helminthosporium teres* (Drechsler, 1923).

In material studied at Aberystwyth, the symptoms on the two rye-grasses and on meadow fescue are alike, and correspond with those on Italian rye-grass described by Drechsler. Spores taken from the host plants vary much in shape. They may be cylindrical with hemispherical end cells, or tapering from base to apex with an end cell which narrows towards the hilum (Fig. 1).

Of six monospore cultures obtained in October 1939 from *Festuca pratensis*, three developed the cylindrical type of spore in culture, while the others produced spores which were slightly shorter, more slender, tapering towards the tip, and with a narrow basal cell. The two types maintained these characters in subcultures and they could also be distinguished by their growth on certain media. Isolates so far studied from *Lolium multiflorum* tend to agree with the tapering fescue type, while isolates from *L. perenne* resemble more closely the cultures from fescue that have cylindrical spores, but some were found to be intermediate between the two types.

Other species of *Helminthosporium* include races which differ rather widely in cultural characters and size of spore (Christensen & Graham, 1934), and it seems best to include all the forms isolated by us from these three grasses in a single species. As the brown discoloration produced on the foliage does not take the form of a net as described for *H. dictyoides*, and as the spore characters agree closely with *H. siccans* which is figured with both cylindrical and tapering spores (Drechsler, 1923, Pl. 12), the fungus attacking meadow fescue and the two rye-grasses in Britain is placed in this species. It should be recognized, however, that *H. siccans* Drechsler is a species which comprises strains that differ not only in cultural characters, but also in the shape and size of spore.

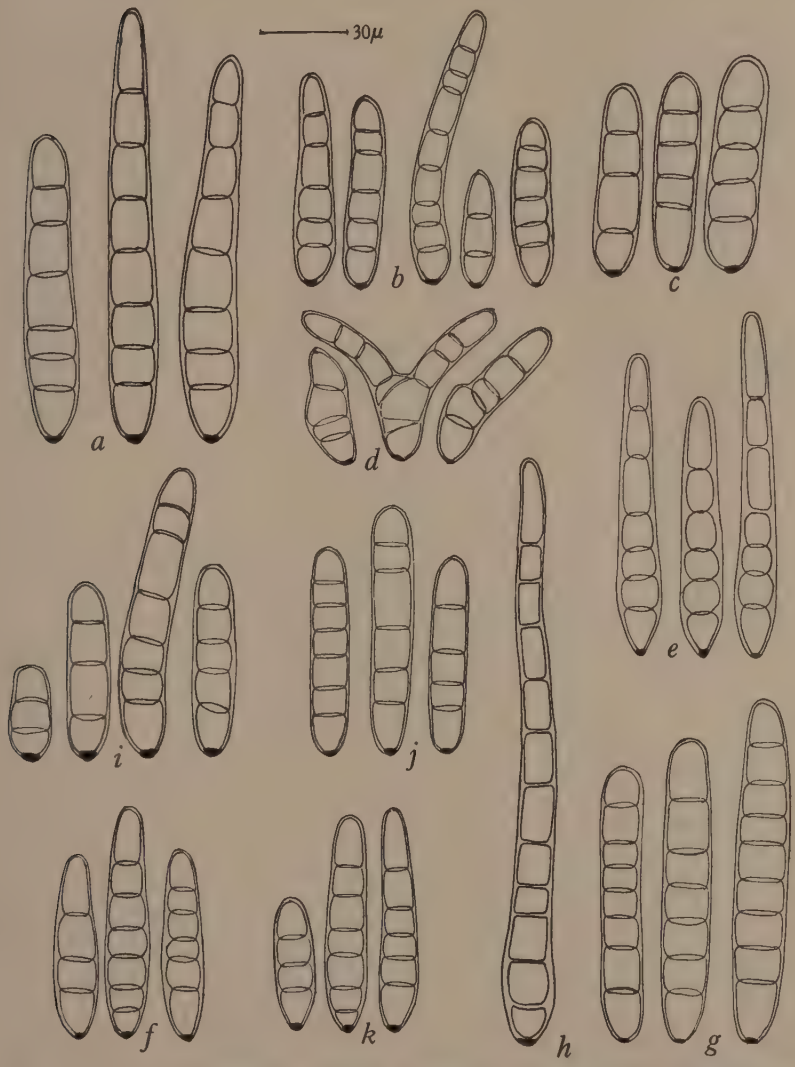

Fig. 1. Spores of *Helminthosporium siccans* Drechsler. *a–d*, strain from *Lolium perenne*; *a*, from leaf; *b*, *c*, from tap-water agar; *d*, from potato-dextrose agar. *e*, *f*, strain from *L. multiflorum*; *e*, from leaf; *f*, from tap-water agar. *g–j*, strain from *Festuca pratensis*; *g*, *h*, from leaf; *i* and *j* show cylindrical type on potato-dextrose agar and tap-water agar respectively; *k* shows the tapering type on tap-water agar. The spores shown in *d* and *h* are slightly abnormal. × 400.

The growth of Helminthosporium siccans *in culture*

Cultures were grown mostly on potato-dextrose agar, oatmeal agar and tap-water agar. On the first two media, abundant mouse-grey aerial mycelium developed on a matrix of much darker mycelium. Monospore cultures varied slightly in colour and in the extent to which sclerotia were formed. Submerged sclerotia were usually minute and abundant. At the margin of dishes and in test-tubes black horn-shaped bodies were formed, originating as appressoria where mycelium touched the glass. These formed a characteristic feature of a series of cultures from Italian rye-grass and meadow fescue which had slender tapering spores.

A few cultures developed tufts of white aerial mycelium which sometimes spread over the surface of the colony. Transfers of the white mycelium gave cultures with dark submerged mycelium and a uniform white surface growth.

Sporulation which is delayed until the cultures are at least four weeks old varies considerably in different strains, some remaining persistently sterile. Tap-water agar is most useful since it gives spores which come nearer in size to those produced on the host, and it induces sporulation in some isolates which remain sterile on potato-dextrose agar. The spores produced on this medium were smaller than those on tap-water agar (Table I). In cultures of *H. siccans*, spores usually arose in great numbers from a few conidiophores attached to a dark sclerotial mass. In only a few cultures were the sporophores distributed evenly over the surface of the agar.

II. ***Helminthosporium vagans*** Drechsler

In 1921, plants of *Poa pratensis* growing at the Welsh Plant Breeding Station were affected with a leaf spot, apparently caused by a species of *Helminthosporium*. The disease has occurred since, but never in a severe form. In March 1938, samples of newly established turf showing brown discoloration of the blades and sheaths were sent to us by Dr Dillon Weston. The grasses included smooth-stalked meadow grass, from which the spores of a *Helminthosporium* were readily isolated and cultured. The same symptoms have been seen again on this grass in turf in a garden at Aberystwyth.

The lesions on the lamina are dark purplish red, the centre changing to light brown and finally white. They are often found in rows along the margin, but a single lesion may extend across the whole leaf. The discoloration of the tissue not uncommonly extends down the sheath to the base of the plant, and in close turf a decay of the foot-rot type sets in at ground level. In pot plants artificially inoculated and later removed for examination, brown lesions were found on the white underground rhizomes, especially on the terminal

bud, and it was evident that the fungus had interfered with the natural spread of the plant.

The fungus fruits abundantly on the bleached centre of the lesions and on withered leaf tips. It has not been seen on any part of the inflorescence.

Inoculation experiments

These were conducted by planting healthy tillers of several species of grass in sterilized soil in 5-in. pots, to some of which cultures of *Helminthosporium vagans* from *Poa pratensis* had been added. The control plants remained free from the disease, while all the plants of *P. pratensis* grown in the inoculated soil developed typical leaf lesions. The first sign of disease was evident in two weeks, and the disease continued to develop for two months, the fungus fruiting abundantly on the dead tissues. It also attacked the rhizomes (see p. 260). *Lolium italicum*, *Phleum pratense*, *Poa trivialis* and *Cynosurus cristatus* treated in the same way did not become infected with *Helminthosporium vagans*.

Identification of the species

The conidiophores arise singly or in small groups and are rather densely crowded in the light centre of the lesion. They begin to cut off conidia when rather short (20 μ) but finally attain a length of 200 μ or more, rarely branching. The spores differ in colour, shape and septation from those of *Helminthosporium siccans*. They are dark brown, relatively wide in the centre, and taper to each end, possessing numerous septa which are somewhat close together (Fig. 2). The distance between septa averages 12 μ as compared with 14 μ in *H. siccans*. As in *H. siccans*, the hilum is included in the contour of the outer wall. Data relating to size and septation are shown in Table II. The fungus has been identified on symptoms and spore characters as *H. vagans* Drechsler (Drechsler, 1923, 1930), but it should be noted that material studied at Aberystwyth gave spores which were considerably longer and had a higher number of septa than those measured by Drechsler (Table II). *H. vagans* is a type which shows affinity with both *H. sativum* Pam. King & Bak. and *H. gramineum* Rab. (Drechsler, 1923).

Table II. *Showing the size and septation of spores of* Helminthosporium vagans *Drechsler on* Poa pratensis

	Length in μ		Width in μ		No. of septa	
Origin of spores	Range	Av.	Range	Av.	Range	Av.
Aberystwyth:						
Plant	46–198	132·5	15–25	18·2	3–15	10·2
Tap-water agar	30–106	69·5	13–26	17·8	3–9	5·5
Helminthosporium vagans (Drechsler, 1930)	31–140	82·7	11–25	19·1	2–12	6·3

Growth of Helminthosporium vagans *in culture*

In contrast to *H. siccans*, the species from *Poa pratensis* grows relatively slowly, forming on oatmeal agar and on potato-dextrose agar a very compact colony with olive-green aerial mycelium which tends to develop radiating strands and a black reverse. Only a few spores were found on potato-dextrose agar. On tap-water agar sporulation was more abundant, but sparse relative to the most

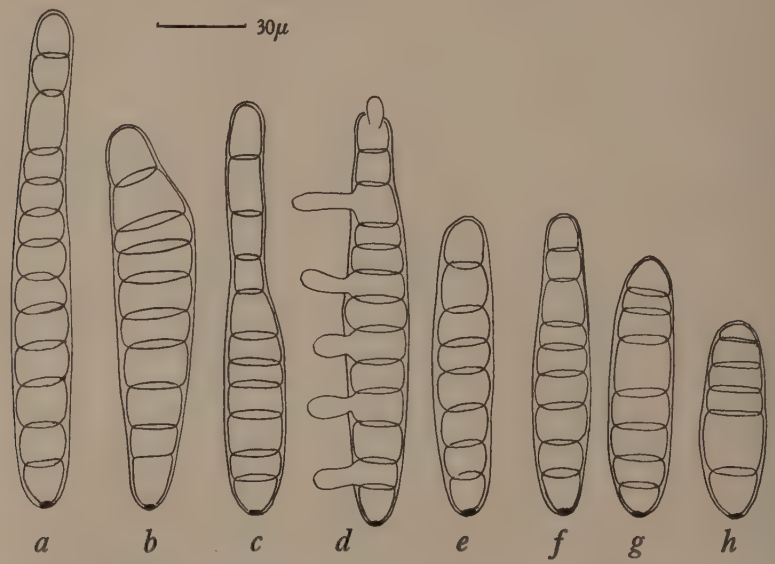

Fig. 2. Spores of *Helminthosporium vagans* Drechsler. *a–f*, from leaf of *Poa pratensis*; *g*, from culture on tap-water agar; *h*, from potato-dextrose agar. Spores *b* and *c* are slightly abnormal. × 400.

fertile strains of *Helminthosporium siccans*, the spores arising in twos and threes from conidiophores scattered over the whole surface of the agar. Monospore cultures of *H. vagans* were, in our experience, relatively uniform.

Summary

Two species of *Helminthosporium* are recorded for the first time in Britain, *H. siccans* Drechsler on *Lolium perenne*, *L. multiflorum* and *Festuca pratensis* and *Helminthosporium vagans* Drechsler on *Poa pratensis*.

Monospore cultures of both species have been studied. Certain isolates of *H. siccans* showed slight but consistent variations in cultural characters and in the size and shape of the conidia.

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PROCEEDINGS

DISCUSSION ON PLANT DISEASES AND THE WEATHER

Held on 17 February 1940, in the rooms of the Linnean Society of London, Burlington House

The President, Dr H. Wormald, in the Chair

W. C. Moore. Weather in relation to plant disease survey records.

A monthly summary of plant disease records from various sources in England and Wales is prepared at the Ministry of Agriculture's Plant Pathological Laboratory at Harpenden, and although for various reasons it is difficult to frame conclusions about weather and plant diseases by studying the summaries in conjunction with weather maps, some broad conclusions can be drawn regarding combined weather effects on the occurrence and severity of diseases. Thus Potato Blight, Downy Mildew of hops and all Downy Mildews are regarded as "wet weather" fungi, while powdery mildews are more prominent in dry seasons. A wet May is regarded as a portent of a bad Apple Scab year; Chocolate Spot of Beans may be expected to develop during periods of dull showery weather between April and July; Clover Rot seems worse when a mild winter follows a wet autumn. The sudden spread and destructiveness of *Antirrhinum* Rust in this country can undoubtedly be correlated with the succession of hot summers that began in 1933. Severe attacks of Gooseberry Cluster Cup Rust followed a dry March in the years 1929, 1931 and 1933. Dr Alex. Smith suggested that when March is dry, teleutospore germination on the alternate sedge host is delayed, and occurs with a rush at a time when there is a large surface area of gooseberry foliage on which spores can alight. A fairly severe attack in 1938 was successfully predicted. Care must be taken not to attribute to local climatic conditions effects due to regional differences in the extent to which the host plant is cultivated, e.g. Leek Rust is said to be more common in the north of England than in the south. The reliability of these generalizations and the precise nature of the factors underlying them can be determined only by special investigations.

R. W. Marsh. Apple Canker and the weather.

Spore discharge. Rain is of paramount importance in discharge of both the conidia formed on cankered wood from spring to autumn, and of the perithecia which succeed them. Conidia may be spattered up to 30 ft. when wind accompanies rain. Vaselined slide spore traps showed that ascospore discharge was very closely correlated with the presence of rainfall, but not with temperature, humidity, wind or sunlight. In the field, spore discharge went on at all seasons at any temperature during which rain fell, but in laboratory tests it was checked at 2–3° C.

Spore germination and mycelial growth. Ascospores of *Nectria galligena* will germinate at from 2 to 30° C. (optimum about 25° C.), but are killed by 5 days' desiccation. The mycelium can grow between 2 and 37° C. (optimum 20° C.). This tolerance of low temperatures, combined with a high rate of spore production in autumn, winter and spring, contributes materially to the success of *N. galligena* in infecting the dormant tree. Infections may be through leaf scars, scab infections, woolly aphis galls and bark disruptions such as pruning cuts and wounds. Leaf scar infection is possible in spring and autumn, but not in mid-winter. Infection through pruning cuts, however, can occur at any time in autumn, winter and spring. Freshly made wounds are the most susceptible, so pruning is advised during cold dry periods when spores are not being discharged. The wounds are thus given the chance of becoming more resistant through ageing before spore dissemination is resumed.

The erratic incidence of the disease is emphasized and weather may be important in some instances and in others subsidiary to some pomological factor.

R. V. Harris. A functional disorder of cultivated varieties of *Rubus*.

A widespread Die-Back of Lloyd George raspberry canes has been investigated at East Malling Research Station. Buds on the fruiting canes either fail to grow out, or produce undersized laterals with the leaves down-curled and developing interveinal and marginal scorching. In extreme instances complete stools may die out, but the growth of young spawn on surviving stools is stimulated. No pathogen was implicated but examination of records of Die-Back revealed an apparent correlation with winter temperatures, and preliminary experiments were started. Plants of the variety Lloyd George were placed, from December to February inclusive, in (*a*) a cold storage chamber at 31·5° F., and (*b*) a heated greenhouse of a mean temperature of 48° F. The plants were then kept till the following winter in a cool orchard house. Deleterious symptoms occurred only on plants kept at the mild winter temperature; 81% of the fruit canes died, and leaf, crown and root symptoms resembled those of Die-Back in the field. Vegetative growth of the stool was stimulated. The raspberry variety Baumforth's Seedling B showed no modification at the mild winter temperature, but in further experiments Die-Back occurred on Loganberry, Phenomenal Berry and Himalaya Berry cool-stored at 40° F.

It is suggested that the Die-Back is the result of imperfect breaking of the winter rest period owing to inadequate exposure to low winter temperatures, but other factors such as soil drainage and weak fungus parasites may intensify the symptoms.

T. H. Harrison. Climate and disease in Australia.

As an island continent, Australia exhibits wide variations in climate.

The relation of weather to incidence of disease is complex, as can be illustrated by reference to the disease Brown Rot of fruits caused by *Sclerotinia fructicola* (Wint.) Rehm. In Australia this fungus does not produce conidia on twigs and cankers as does *S. laxa* in England. On mummified fruits, conidial pustules can be dried up and killed in a few hours by hot dry winds but a new crop may be developed in a few days in suitable weather. As many as sixteen successive crops of conidia from individual mummified fruits have been noted in New South Wales. Conidia from rotting or mummified fruits are mainly responsible for spreading the disease rapidly through growing or ripening fruits of which the liability to infection is influenced greatly by climatic conditions.

If mummified fruits are allowed to rest undisturbed under suitable environmental conditions, apothecia may be produced in the spring, usually coincidentally with blossoming of stone fruits such as plums, peaches and apricots. Similar climatic variations affect both blossoming and apothecial development. Ascospore clouds may be ejected to cause infection of blossoms if satisfactory climatic conditions prevail both for ejection and germination of spores. The requirements were discussed in detail.

Control of this disease depends on the prevention or reduction of initial infection in the spring by destruction of mummified fruits and prevention of apothecial development and timely applications of protective fungicides to growing and maturing fruits.

The fallacy of blaming climatic conditions prevailing at time of appearance of disease in very conspicuous form is demonstrated by reference to Peach Scab or Freckle. The weather prevailing before bud burst when infection takes place has a profound influence on disease which shows up when leaves fully expand.

Other instances of the influence of climatic conditions on incidence of disease were quoted and the conclusion reached that a careful study of meteorological data and its correlation with etiological data should make it possible to forecast severe outbreaks of disease of most crops and therefore enable preventative measures to be adopted speedily.

Mary E. King and R. V. Harris. The strawberry yellow-edge disease in relation to weather conditions.

On the strawberry variety Royal Sovereign it was early observed that the diagnostic symptoms of Yellow Edge were prominent in June or July and again to a

maximum extent in the autumn, and roguing was therefore carried out during these periods. Since 1935, observations have been made using a numerical scale to record the relative intensity of the disease symptoms. A study of soil temperature and rainfall showed a correlation between intensity of symptoms and weather in the preceding week or fortnight. Symptoms do not develop until a certain temperature is reached, usually during June or July. During the following intermediate phase temperature is sufficiently high, but soil moisture becomes a factor limiting development of symptoms. (A rise in soil moisture after several pronounced drought periods in 1939 was followed a week or a fortnight later by an increase in symptom intensity.) In the final phase in late autumn the soil moisture remains at saturation point but the symptoms become less pronounced as the temperature falls. Since young leaves show Yellow-Edge symptoms most clearly the lag between the occurrence of suitable weather conditions and appearance of symptoms probably represents the time necessary for the development of young leaves. Roguing is most efficient if carried out when symptom intensity is greatest and it is now possible to forecast good roguing conditions for Royal Sovereign.

M. H. Moore. The effect of weather on some diseases of apple and Morello Cherry.

Apple scab. While temperature is important for the rapid development of perithecia of *Venturia inaequalis*, adequate moisture from rain or dew is both essential for the discharge of ripe ascospores, and conducive to infection. In south-east England ascospores are ejected mainly towards the end of April, and seasonal variations in bud development can condition the success or failure of a fixed spray programme. Wet, and especially cool windy weather at the time of ejection of ascospores or at the, usually earlier, ripening of conidia, may lead to an epidemic of scab unless checked by spraying. Post-blossom infection tends to be less damaging than earlier infection, but is less easily controlled by the weak sprays then necessary for safety. The influence of rootstock, cultural and manurial treatment on the degree of infection appears to be governed largely by seasonal conditions.

Brown Rot in Morello Cherries. In the course of experiments on killing of winter pustules of *Sclerotinia laxa* by tar oil, it was found that very little infection occurred when the weather was dry at flowering time, but infection spread like fire in 1937, when the weather was wet while the morellos were in flower.

Branch Blister in Cox's Orange Pippin. Experiments in Essex showed that this disease, which is regarded as functional and not due to parasitism by *Coniothecium chomatosporum*, was caused primarily by drought, and affected trees grew normally without blister after they had had plenty of rain during the growing season.

A. Beaumont. Potato Blight and the weather.

The first outbreak of Potato Blight to be observed generally occurs in Cornwall and outbreaks occur in other counties more or less in order from south-west to north-east. This is not due to a spread of disease in this direction but because the weather conditions favourable to the outbreak of blight occur earliest in Cornwall and later in the north and east. Dutch scientists first formulated rules for the weather conditions favourable to the initiation of blight epidemics. When these rules were tested in England by Wiltshire it was found that they indicated blight rather more frequently than it occurred. This has been confirmed in Devon and Cornwall and it has been shown that better results are given by simpler rules: (1) minimum temperature not less than 50° F.; (2) relative humidity over 75% for at least 2 days. Observations of daily weather maps have shown that these conditions occur when a large depression is approaching *slowly* from the west. Localities to the south-east of the depression usually experience relatively high temperature and humidity and if the depression is moving slowly these conditions will last long enough to initiate the blight epidemic. Very typical conditions occurred in 1939 during the period 4 to 9 July and were responsible for the main epidemic in most counties. It is claimed that with the above information all the main blight epidemics can be forecast with reasonable accuracy.

Meeting held in the Rooms of the Linnean Society of London, Burlington House, Piccadilly, London, W. 1 on Saturday, 20 April 1940, at 11 a.m.

The President, H. WORMALD, D.Sc., A.R.C.Sc., in the Chair.

Dr E. M. TURNER. The reaction of oats to different strains of *Ophiobolus graminis* (Royal Holloway College).

Recent reports from Wales of oats attacked by *Ophiobolus graminis* (Take-All) conflict with the generally held opinion that oats resist that fungus. Isolations from infected oat stubble from Wales gave a fungus indistinguishable in culture from *Ophiobolus graminis* isolated from wheat. Four varieties of oats, strongly resistant to isolates from wheat, were very susceptible to those from oats. Measurements of numerous ascospores from the different strains gave a range in length of 98–117 μ for the fungus from oats, and one of 79–96 μ (the usual range for *Ophiobolus graminis*) for that from wheat. It appears that the fungus from oats is a new variety of *O. graminis*.

The cells of oat roots oppose a protoplasmic resistance to normal *O. graminis*, the fungus invading the seedling roots but disappearing in about three weeks. The fungus from oats, however, invades oats just as the normal strain invades wheat. Extracts were made from the roots of wheat and of oats and their effect on the growth of the isolates tested. Isolates from oats always grew well in these experiments, but those from wheat did not grow in untreated or in steamed oat extract, or in the sediment left after the extract was centrifuged. They grew fairly well in oat extract which had been passed through an L5 filter candle, and in the supernatant liquid obtained by centrifuging; they grew well in wheat extract.

It is concluded that there is a substance in the solid portion of oat extract which is toxic to the fungus isolated from wheat.

Dr M. A. BRETT. Fungal infection of *Ulex minor* Roth. (Preliminary account.) (Northern Polytechnic.)

A white powdery infection of the anthers of *Ulex minor* Roth. (*U. nanus* Forst.) was originally recorded by Miss A. D. Betts, but not identified. Unicellular conidia of several types occur on the anthers, and sections reveal that three different mycelia may be concerned in the infection. Some information has been gained about two of these.

The first (not yet identified) forms smut-like spore balls in the anther cavities, but it is not known to which of the surface conidia this is related. Only unripe spore balls in preserved material have been observed.

The second mycelium grows to the surface of the anthers, and there forms identifiable conidia. Insects distribute them and pollinate the flowers simultaneously. Fertilization follows, and seeds develop to their full size, but are attacked by a mycelium which enters by the funicle, and forms spore balls in the pods corresponding to descriptions of the genus *Thecaphora*. On germination, these have so far produced only a weak mycelial growth which died away, and no connexion has been established between them and any of the anther conidia. The results of infection experiments are not yet available.

The mycelium which attacks the seeds differs from the other mycelia in appearance, and it is possible that this is formed after conidial fusions, many such having been observed at the time of pollination. The conidial forming *Thecaphora* mycelium would thus perennate in the haploid condition, and diplophytic mycelia be produced annually in the pods.

Dr S. Dickinson. Experiments on the Physiology of Obligate Parasitism I.

[The author did not supply a summary.]

Dr Roger Heim. The Fungi of Termite nests in West Africa.

[The summary of this paper has not been received, for shortly after Dr Heim returned to Paris, communication with him was broken by the development of the war.]

Dr C. G. Chesters. A note on the isolation of soil fungi.

[The author did not supply a summary.]